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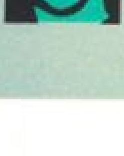
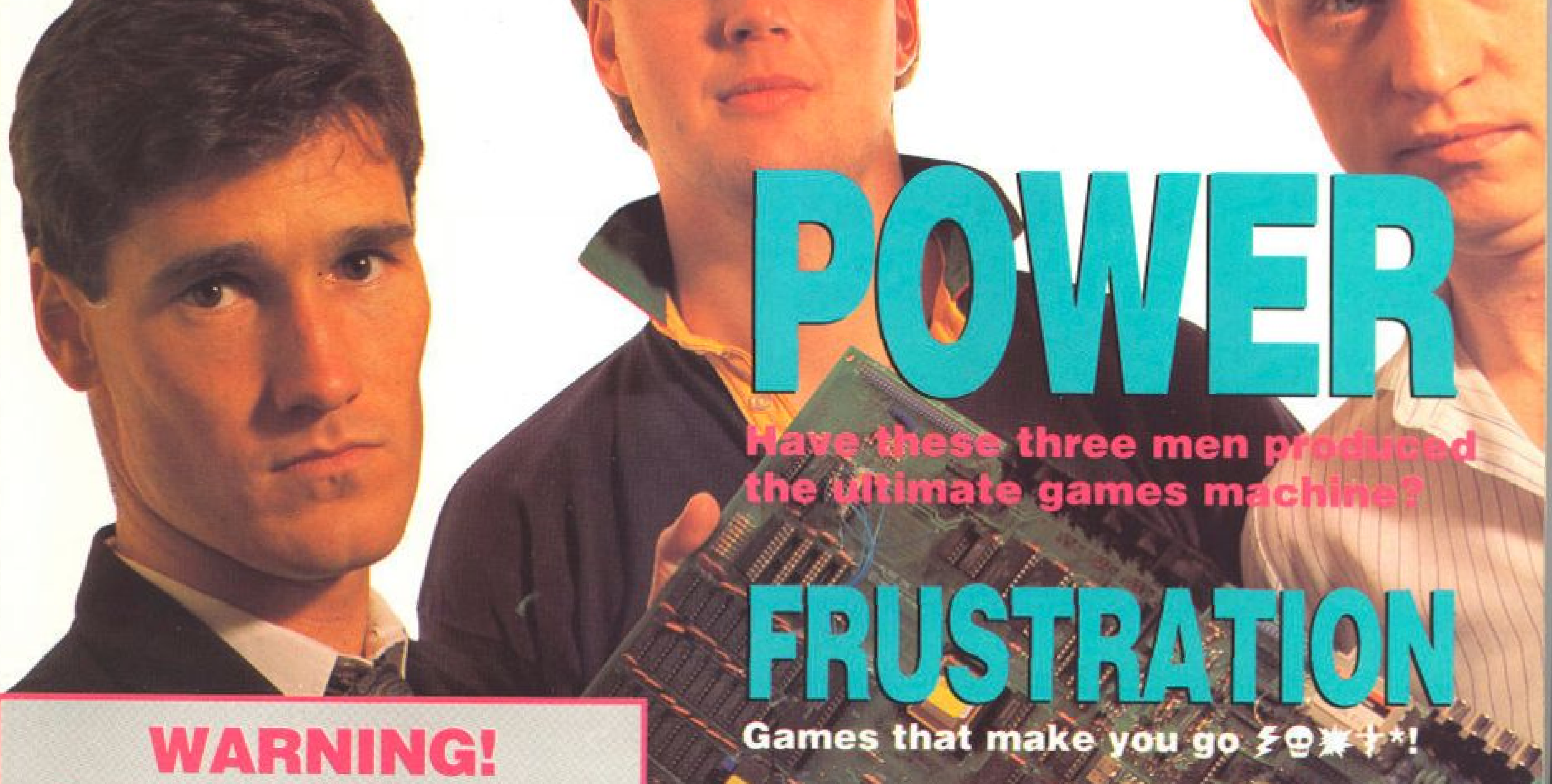




POWER

Have these three men produced the ultimate games machine?

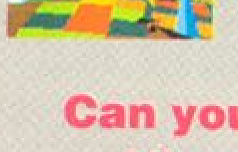
FRUSTRATION

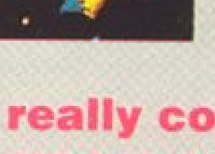
Games that make you go ⚡☠✷☨*!

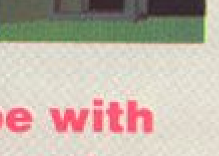
CORRUPTION

Telecomsoft's Yuppie fantasy

WARNING! Games Overload!







Can you really cope with *Virus*, *Whirligig*, and *Darkside* all in one issue?

● REACH FOR THE SKY! Win £700 of flying lessons – p14

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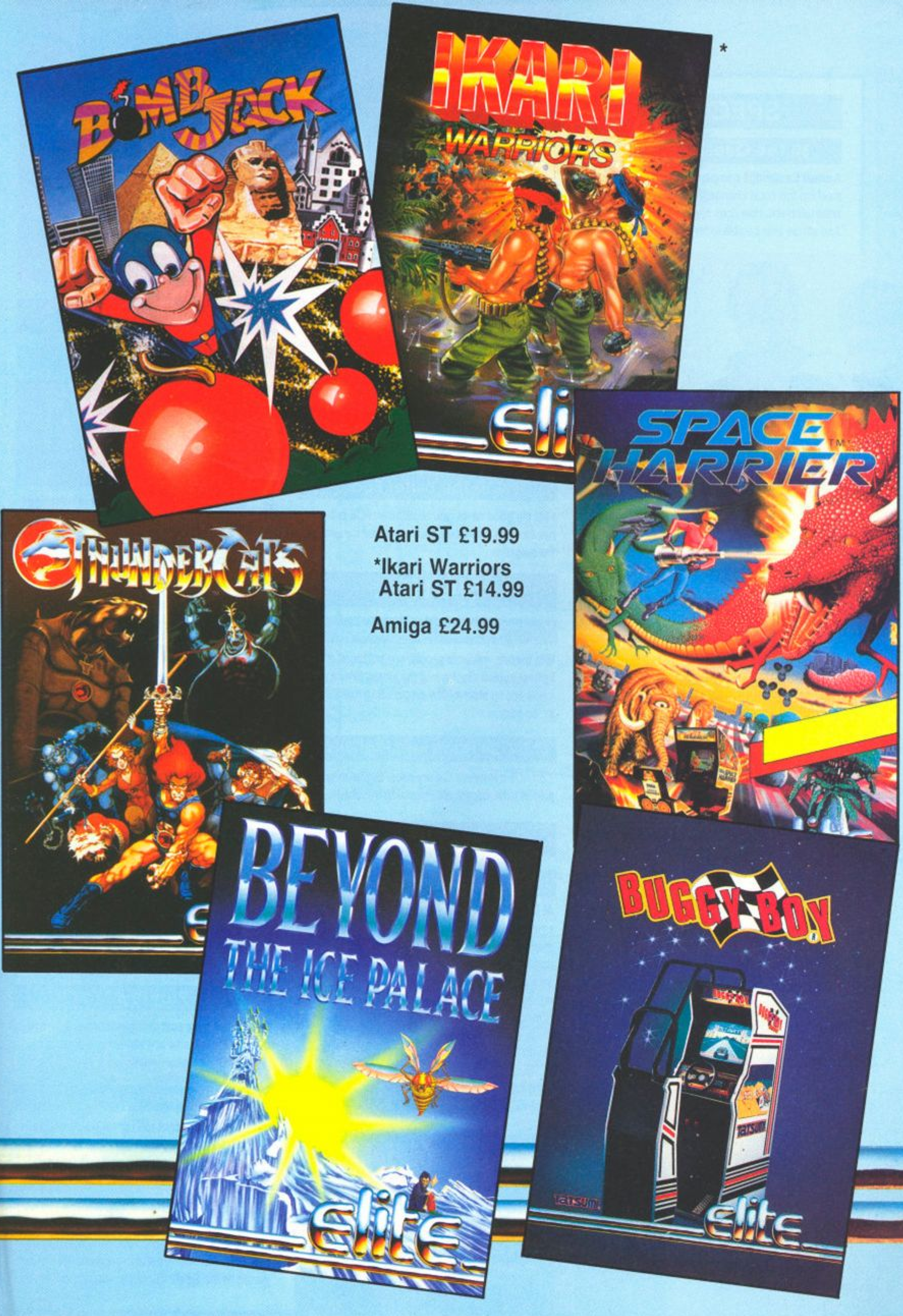
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ACE

SPECIALS

30 The Quest for Power

A **small Cambridge company** have come up with a machine that could **change the face** of **computer entertainment**. How does it work? What does it do? And will we ever be able to **buy it**?

35 Who's Bad!?

These guys don't just **know** a good game when they see one – they **write** them! Britain's **hottest coders** give us their **honest opinion** of the work done by their competitors.

78 Carry on Screaming...

Just **one more alien** to beat and...Aughgh! No! Please, no! Anything but **THAT!** We check out games that make **grown men cry**, **snap** their **joysticks, smash** monitors, and **leap screaming** from top-floor windows. Don't say we didn't **warn you...**

72 Filo-fantasy

Rainbird's latest **adventure blockbuster** has stunning graphics and comes complete with drop-down Filofax menus. Next to a **Platinum** American Express card and a **Porsche 911 Turbo**, it could be just what the Yuppies are looking for...

INTERFACE

7 News

Can Tandy give us all **CD-ROMS**? What is Jeff Minter doing **in church**? Why are Mediagenic **telling tales** – and **who** are they? Who's afraid of the **big, bad birds**? They **told us**, and we're just bursting to **tell you**...

Birds of a feather get it together on page 8.

18 Previews

Games of **the future**, splashed in full colour over **this month's pages.**

101 Letters

With letters like **these**, who needs a **magazine**? We put our **feet up** and let you **fill the pages...**

130 The Blitter End

First the **good news**: you could be an ACE prizewinner. Now the **bad news**: you've reached the end of the magazine.

SIGHT...

21 Back to Basics

Win friends, influence people, and put together the **hottest screen displays** on the **street**. Brian Larkman's tips on **state-of-the-art pixelling** make it all so, so easy...

24 Hang 'em High

...on ACE's Readers' Gallery page. **Digital masterpieces** from readers put Picasso **in the shade**.

......AND SOUND

96 Budget Ivory

At last! Cheetah have emerged with their long-awaited budget range of **master keyboards.** Chris Jenkins gets all **keyed up**...plus a look at Roland's latest box of tricks, a **souped-up** version of the **astonishing MT32,** and news of a **powerful new music card** for the IBM PC.

THE ACE CARD

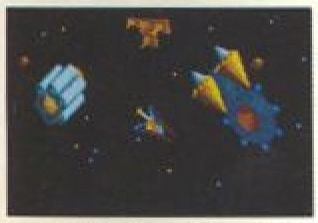
Win an Amiga!

Turn to page 12 for details of your chance to win one of two Amigas we're giving away – and check The Blitter End to see if you've won an Atari ST or any of the staggering 24 software prizes we offered last month.

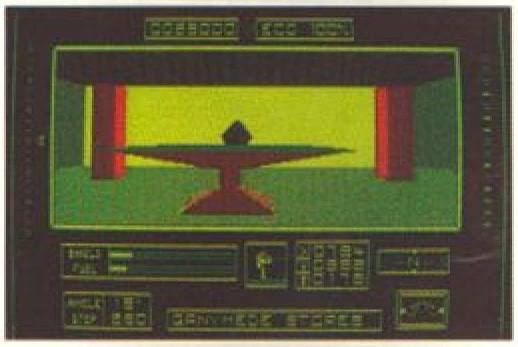
GAMEPLAY

41 Screen Test

Mike Singleton shows off his **true colours** in deep space, plus the definitive review of ***Virus*** on the ST, Incentive's Freescaped ***Darkside*** and a host of other red-hot releases – all **exhaustively reviewed** and rated by the country's top games testers. Don't say *Aaargh!*, say ***Ugh!***



Page 42: *Whirligig* – Singleton lost in space and a long way from Midnight.



Page 44: *Darkside* – another brave new world in solid 3D.

26 Arcade Ace

Could be there's a **revolution** on the horizon in the arcades – **you don't just blast** everything in sight in *Vindicators*, you **think** while you're doing it – or so Andy Smith claims. Plus news of *BAS*, *Vulcan Venture*, and – we kid you not – ***Bad Dudes Versus Dragon Ninja.***

91 Play-By-Mail

Pop a letter in the post detailing your plans for **conquering** the universe and someone, somewhere, might just take you **seriously.**

85 Tricks 'n' Tactics

Let's face it, if you can't **top the high score table** in *Platoon, Mercenary, Oids, Impossible Mission, Carrier Command* and many others, then there's only **one thing** to do...**cheat**.

72 Adventures

What a month! Not only do you get *Corruption* and *Legend of the Sword*, but also exclusive news of new games by the *Bards Tale* team, Infocom, and others.

BUY LINES

12 The ACE Card

It just **can't go on**, we hear you cry. But it can...Yet more prizes, worth hundreds of £££s, for ACE card winners – plus details of **how to get your card** if you're **missing out.**

14 Reach for the Skies!

Ace and Gremlin bring you a competition to help you fulfil your **wildest dreams** - £700 worth of flying lessons, or a state-of-the-art radio-controlled **sky stormer.** The **choice** is yours, and so's **the chance...**

94 Special Offers

Talk about a **divided Britain** - some people in this country have **never had it so good.** They're the people who save **up to £4** on a **single game**, chosen from the summer scorchers on the ACE Special Offer pages. **Join them.**

93 Subscription

We have a **problem**. For some reason, we aren't content with offering you a year's subscription to Britain's fastest growing micro magazine – we have to go and **throw in** a stack of superb US Gold games at **half-price** as well. **Don't ask us why**, or we might change our minds. Just get that coupon in the post pronto...

ACE PINK PAGES

105 Buyer's Guide

Fifty of the best games available, complete with prices and mini-reviews. We've **played** them, we've **praised** them, now **you** can **buy** them.

122 Upgrade Guide

So you want to buy a beefier micro. ACE lists the upgrade options, the technical details, the prices, and the software availability. Get the **facts** before you spend the **money**.

124 Random Access

Puzzles, problems, and prizes. You don't just **sit back** and read this magazine, you know – you have to **DO** things as well.

127 Readers' Pages

Look, it's **our** job to fill the magazine, right? So we'll turn a **blind eye** to all these mini-advertisements, helpline offers, announcements, and other trivia. If this section gets any **bigger**, we'll have to get **the lads** round for a spot of **picketing**, OK?

FROM THE
BETELGEUSIAN EMBASSY

Earthlings,

Us extra-terrestrials are, as you say, overfed upwards. More than that, we are udderly passed off.

Every sun-cycle our representatives are forced to witniss the abominable slorter of our peeples on your monniters. Of course, we enjoy a few blasts of *Attack of the Mutant Earthling Dudes* as much as any alien bean, but at least we shoot you with your trowsers on.

Us aliens r always portrayed wihtowt our clothes on. So not only are we anneyehillated wivout mercy, but we suffer serious loss of dignity in the processor.

However, this is not the reel reeson for righting.

Our reel reeson is to ask abowt this ACE Card biusiness. We are led to under-stand that these Cards r some form of Inter-Galactic freebie, possession of wich gives the owner the chance of receeving mega-luxury Earth items for absoutley no charge.

Can this be tru? Are there any Ace Cards left? Plez send several thousand immediately by Red Star.

Grorkingly yores,

Manglet Seiddab'h'Tatcher

The letter above may be **moonshine**, but the ACE Card is **the business**. Every month we give away dozens of prizes - a share-out that YOU can join in if you're a cardholder. If you're not, full details of how to get your ACE Card **free of charge** can be found on page 12.

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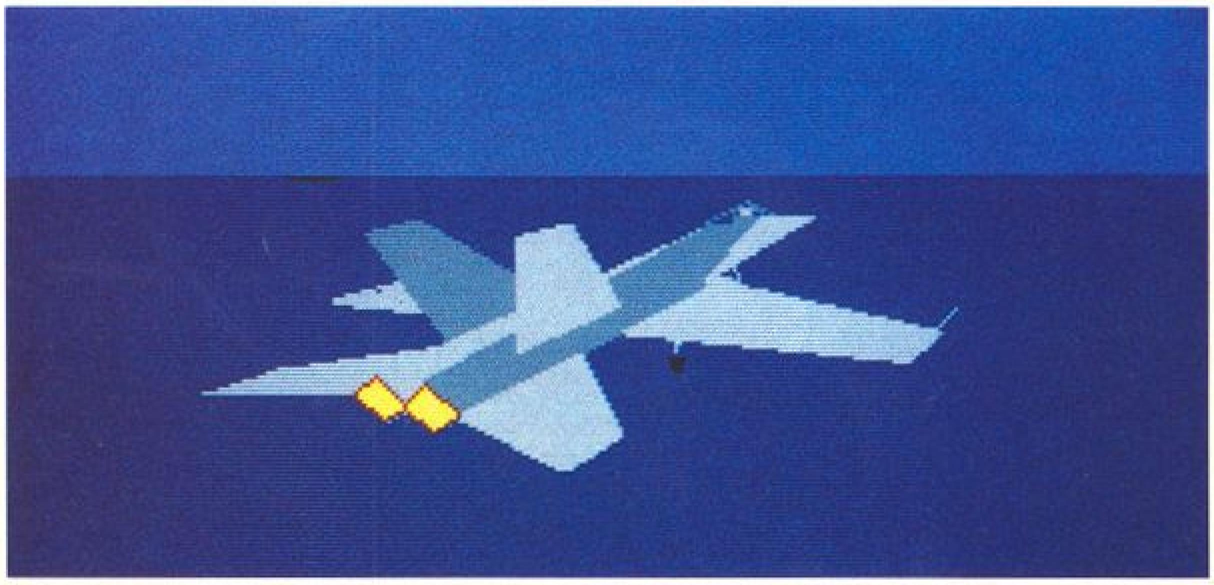
ACE NEWS

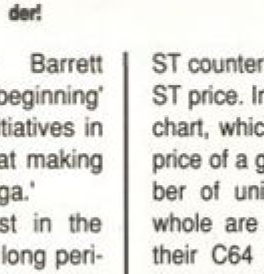


Interceptor - reason enough to buy an Amiga?

16-BIT WAR!

The gloves are off in the battle for 16-bit supremacy: Commodore have slashed the price of the Amiga A500 by £100, and that's only the beginning of a massive summer/autumn assault on the computer entertainment market.

The cut leaves the A500 with a price tag of £399.99, putting it on a par with the Atari ST for the first time ever, and Commodore have other cards up their sleeve. Announcing the cut, Commodore's marketing manager Dean Barrett described it as 'just the beginning' and promised 'further initiatives in September – all aimed at making 1988 the Year of the Amiga.'



Steve Franklin - Commodore UK's MD - declaring war on games players. We surrender!

This sudden interest in the leisure market follows a long period of relative indifference, during which Commodore concentrated on selling the Amiga as a business machine, and comes at a bad time for Atari. Earlier this year the ST seemed to have the entertainment side of home computing sewn up, with a 520ST costing only £299 to the A500's whacking £499. In April this changed, when Atari increased the 520ST price by £100. This astonishing and unprecedented move was forced on them, Atari claimed, by a world shortage of dynamic RAM chips. It unquestionably left the ST vulnerable, despite the impressive line-up of games included in the price and the less well-publicised upgrading of the 520ST drive to 1040ST standard.

The question now is whether Commodore have in fact left it too late to make their move. The ST's old £299 price-tag sold a lot of machines, and that in turn gained it plenty of software support. Titles like *Star Trek*, *Out Run* and *Captain Blood* have sold in very large numbers on the ST, making it big business indeed for the games houses. It's not just the numbers of each title that get sold – a really successful Spectrum or C64 game will normally sell many more than its ST counterpart – but also the higher ST price. In Gallup's 'sales by value' chart, which takes into account the price of a game as well as the number of units sold, ST titles as a whole are now narrowly ahead of their C64 equivalents, putting the ST second only to the Spectrum.

If most ST games are typically a little over twice the price of 8-bit ones in the shops, they can look even more attractive to the game's publishers. According to one major software house, an ST game earns a programmer three times as much per unit sold as an 8-bit title does. If the royalties here are tied to how much the software house itself makes on the game, it's easy to see why the ST's getting so much software support these days.

The Amiga may be able to offer software houses the same price advantage as the ST, but it can't sell anywhere near as many titles. For most programmers the Amiga version of a game is only worth doing as a spin-off of the ST original, and wouldn't be worth the programming time in its own right. Does that matter to the end user? So long as the conversion turns up eventually, who cares if it is an afterthought?

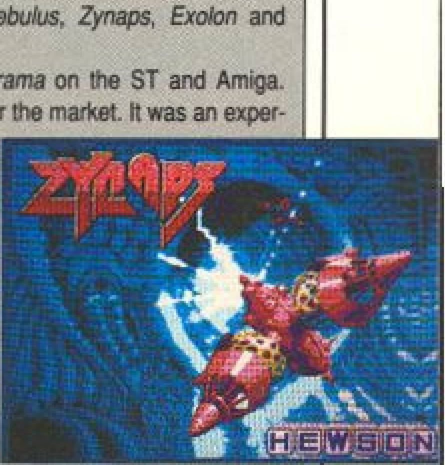
With the price difference gone, the crux of the matter for gamers is whether the few impressive games released for the Amiga but not the Atari machine – like *Interceptor*, *Ferrari Formula One* or *Bonecruncher* – can outweigh their ST counterparts (the still unconverted *Oids* for example) and those 20 free titles. With so many buyers also looking to dabble in computer art, the Amiga could just come out of this one on top – and that's not something anyone would have predicted six months ago!

HEWSON GO 16-BIT

Acclaimed 8-bit software house Hewson are about to attack the 16-bit market with two original products for the ST/Amiga – *Astaroth – The Angel of Death*, and *Roadstar XRi*. Not only that, but they're also converting some of their biggest 8-bit hits – stand by for *Nebulus*, *Zynaps*, *Exolon* and *Cybernoid* on the 16-bit screen.

Previously they had only released *Ranarama* on the ST and Amiga. Andrew Hewson explained, 'It gave us a feel for the market. It was an experiment and it worked.' So what have they been doing since then? 'We've been deciding what 8-bit material to take over onto the new machines, and what original games should be developed.'

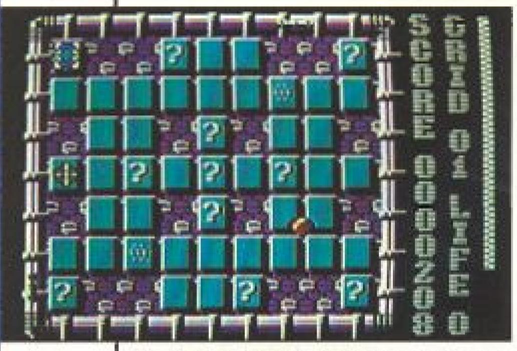
He also said that their intention was to produce games that use the machines to the full, rather than just tacking digitised sound onto an 8-bit game. *Zynaps*, *Nebulus* and *Exolon* will appear on both ST and Amiga, with *Cybernoid*, *Netherworld* and *Stormlord* on the ST.



ST - Zynaps prepares to go 16-bit.

BIG SPLASH FROM BIG APPLE

Hold your breath – there's a new software house in the market who are planning to 'take on' the likes of US Gold and Ocean, offer us 'American raz-a-ma-taz' and 'upset the apple cart'. They're launching with multi-million pound backing and loadsahype. Who are they?



Big Apple's first release - *Oops!* - due out in June.

They're called The Big Apple Entertainment Co Ltd, and are part of a group called Prestwich Holdings. Prestwich hail from the record distribution business and with their associated companies in the video and character licensing business they turned over a whopping £42 million last year. They claim to be determined to become a 'leading software house within a young but exciting industry.'

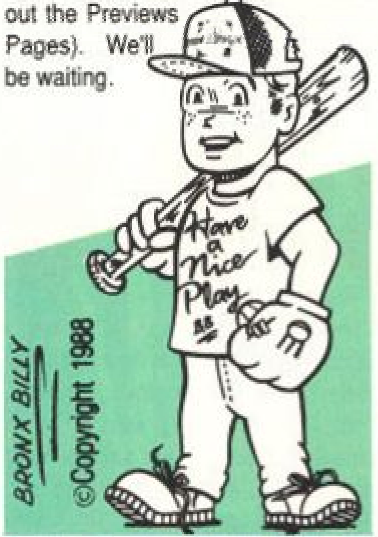
Sounds good, but what's behind the hype?

First, there's cash – and plenty of it. Up to £5 million has been earmarked for expenditure over the next year. It's a long time since we saw anybody enter the market with such a commitment and the finance to back it up.

Second, there's a good deal of experience. Character licensing and video are just part of the Prestwich operation – they also own Bush Radio, the hi-fi people.

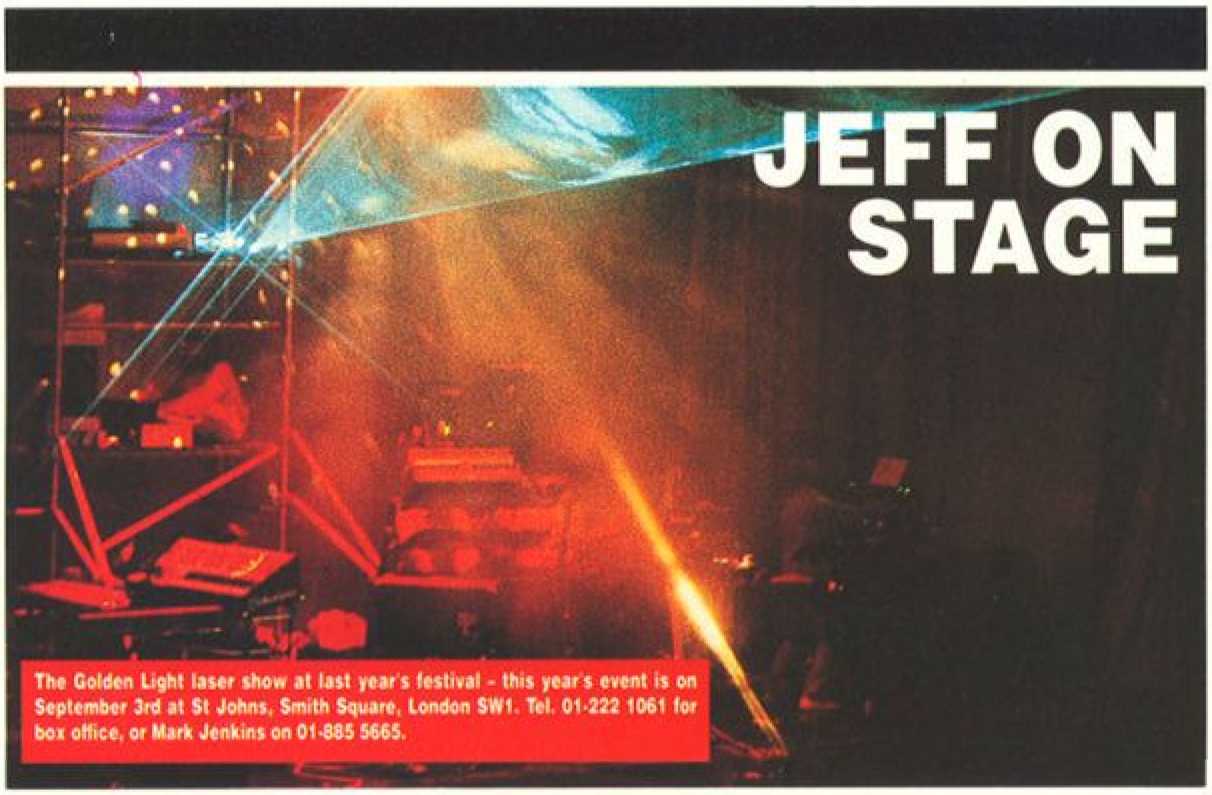
Finally, there's a commitment to 'originality'. Sounds like more hype – the market is, if anything, improving in this respect already anyway – but Big Apple claim that: 'The game scenarios are totally original – you wouldn't expect to see a computer game based on ideas like these.' The originality, it seems, extends even to the 'designer games packaging' which has 'all-round originality' though it will, in fact, be rectangular. Its special 'flip-top box' has apparently been tested for up to 350 openings and closings. We're impressed.

The first games will be hitting the market in June (*Oops!* – check out the Previews Pages). We'll be waiting.



Big Apple's mascot - Bronx Billy - who is designed to enhance the company's 'streetwise New York image'. He'll also feature in a 'frequent buyer' campaign that will offer free gifts to purchasers.

JEFF ON STAGE



The Golden Light laser show at last year's festival - this year's event is on September 3rd at St Johns, Smith Square, London SW1. Tel. 01-222 1061 for box office, or Mark Jenkins on 01-885 5665.

Jeff Minter rides again, this time in a converted church in London's Smith Square, where he will be taking part in this year's Festival of New Age and Synthesiser Music to launch the Trip-a-Tron – an advanced software-based light synthesiser.

Before the cynics die laughing, they should know that the whole idea of linking sound and light – as Minter did with his original Colourspace series – has taken on a whole new meaning with the advent of MIDI. Using MIDI codes you could now control one of Minter's 'light synthesisers' with a conventional MIDI keyboard.

'It's possible,' elaborates Jeff, 'to sense MIDI data including pitch-bend and velocity so that you can moderate your light performance according to the music.' He thinks that in the near future the light synthesiser will become a powerful instrument in it's own right, used as part of the band line-up for live performance:

'It's inevitable. If it doesn't happen with Trip-A-Tron now, it'll happen in a couple of year's time, or five year's time with something else. It's got to happen – look at music videos – they're a start, but they're not close to the music. It's what everyone was trying to do in the 60's with oil wheels, or Jean Michel Jarre with his laser shows, but I'm doing the real thing right now – not just some pre-sequenced light-show.'

ACE is eagerly awaiting its review copy of Trip-A-Tron. Watch this colourspace...

TANDY CD-ROM DOES IT ALL?

Tandy claim to have come up with a 'revolutionary development in optical disc media' which they're calling THOR-CD. The THOR stands for Tandy High Optical Recording and the big thing about it is, first, that it is compatible with existing CD players and, second, that it promises to be cheap.

We're unlikely to see THOR-CD in this country until 1990, but if we do, we'll get a compact unit that will be able to both read AND write data. That means it won't be a CD-ROM at all, but more like a CD-RAM – or an ultra-high capacity hard disk system. The company reckon they'll be able to offer 'hundreds of megabytes per five inch disk'.

Even more importantly, the access time looks as if it should be on a par with hard disk systems and the system will be able to cope with musical, video, and computer data. Price is uncertain at present, but the audio unit shouldg cost around $500 – the computer kit will cost more.

There's just one small problem. The attempts of the Japanese to introduce digital audio tape (DAT) into this country, already reported in ACE, have met with very stiff opposition because of the piracy problem. Surely the same problems will apply with Tandy's CD system?

'I can see that they might be applicable, but we wouldn't like to comment on that at this stage', said company spokesperson Amanda

THE PHONE GAME

Would you like to play games down the phone without using a modem? Well, you can! Until now the phone system's contribution to the world of adventure and roleplay has been confined to MUGs like MUD or Shades. Now the voice games are coming - and you may never think of your phone the same way again!

The phone is a natural for creating the atmosphere a good adventure needs. After all, what graphic adventure nasty could compete with a Vincent Price monologue? The problem is in actually making money out of providing such a service. For years, the only way to charge people money for accessing your system was by selling membership subscriptions, with passwords to keep out the freeloaders. Prestel and Compunet both work on this basis, as do independent games like *Gods* or *Trash*.

Unfortunately, most people have a strong aversion to taking out subscriptions and paying for things in advance. BTUs pay-as-you-go facilities using 0898 numbers may now offer games organisers a way round this natural resistance, thanks in no small part to some very clever computer technology.

While subscription services have never really mushroomed the way pundits expected, pay-as-you-go systems are a major growth area. Micronet itself has such a system, Hotel California, offering many of the subscription database's interactive areas (or their equivalents) to non-members at a per-minute charge. Both Hotel California and rival online service Desire are highly unusual 0898 services simply because you need a computer and modem to access them.

Interactive

The vast majority of pay-as-you-go phone services are voice lines, and most of these offer nothing more than taped monologues recorded by stockbrokers, Page 3 girls or similar. However, there's a new breed of service coming in which, though based on voice rather than modem communication, is nevertheless interactive.

A case in point is the now well-established Russell Grant Starline service available in the London area, which gives each caller a horrorscope message based on his or her date of birth. Using a separate line for each possible message was clearly out of the question here – fitting 365 different phone numbers legibly on an advert is hardly a serious proposition, quite aside from the other problems involved – so Starline's suppliers were forced to use an alternative, higher tech approach.

The service uses the caller's telephone dial as a numeric keypad, decoding the tones made by his phone as he keys in his personal numeric details.

Already an 0898 online game exists. Called FIST (Fantasy Interactive Scenarios by Telephone, would you believe?) it takes the form of a spoken Steve Jackson text adventure-cum-roleplaying game complete with sound effects. The latter's a crucial element in the whole idea: as anyone who's played Infocom's 'Lurking Horror' will tell you, in the realms of fantasy one sound effect is worth a thousand pictures!

TONE DEAF?

If you're wondering what all this stuff about 'tones' is, you probably can't dial the Starline service at all: only users of American-style DTMF phones can enter their data this way.

The hardware barrier here is not insurmountable: separate tone diallers let you enter the information on normal pulse-dialling phones. That's small consolation for services that rely on casual users – would you run out and buy a tone dialler just to hear your hororscope? – but it could be good news indeed for all you adventurers and role-players out there.

INTRODUCING THE VOOG...

Though FIST doesn't rely absolutely on the use of a tone dialler or DTMF phone, it is slower without one or the other – and that's pretty important given that the service costs upwards of 25p per minute. A far more exciting possibility for the future is the VOOG.

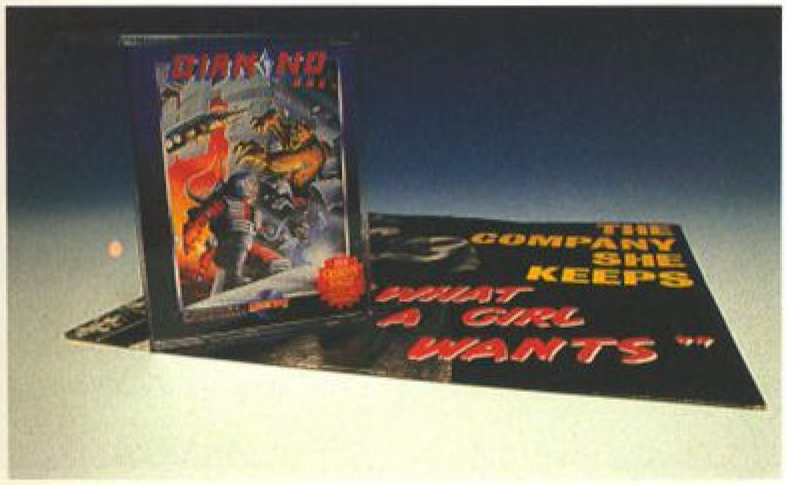
VOOGs are Voice-Operated Online Games and, as the name implies, they use voice recognition technology to allow spoken commands by the caller. Voice recognition is only just becoming practical for commercial use, but already BT experiments have shown just how successful games along these lines could be. With a very short 'training' period to let the system learn your speech patterns, a game can correctly follow directional and other commands with a 95% or better success rate.

VOOGs were first tested by BT a couple of years back, when a small band of select subscribers were able to explore a Cornish village over the phone using directional commands. The system was pretty primitive, recognising only a very few words, and running on an ordinary IBM PC with a voice recognition card tacked on. More up-to-date systems can recognise more words and do not require 'training' for different users – saving time and subscriber's money.

MUSICAL BONUS

Destiny Software, the company formed by erstwhile Beyond-man Francis Lee, has started to include music with its titles – buy a copy of their next release *Diamond* and you'll get a free cassette featuring *What A Girl Wants* from up-and-coming group **The Company She Keeps**.

In fact Mr Lee is going one step further and actually starting his own music label, Destiny Records. Although *What A Girl Wants* was actually licensed from Cold Harbour Records, future releases will be signed directly to the label, which will not only release singles on vinyl but will also package them along with games from Destiny Software. Francis Lee thus joins the ranks of K-Tel, Beaujolly, Telstar, and Virgin – all of whom have sought to combine the music and software businesses with varying success.



REPEAT POWERPLAY

Arcana are releasing a new version of *Powerplay* for the Amiga. This unusual occurrence has been prompted because, as Arcana put it, "it became more and more obvious to us that Amiga owners were no longer satisfied with games ported over from the Atari, and that it was time to produce a game solely for the Amiga, using all of its graphic capabilities."

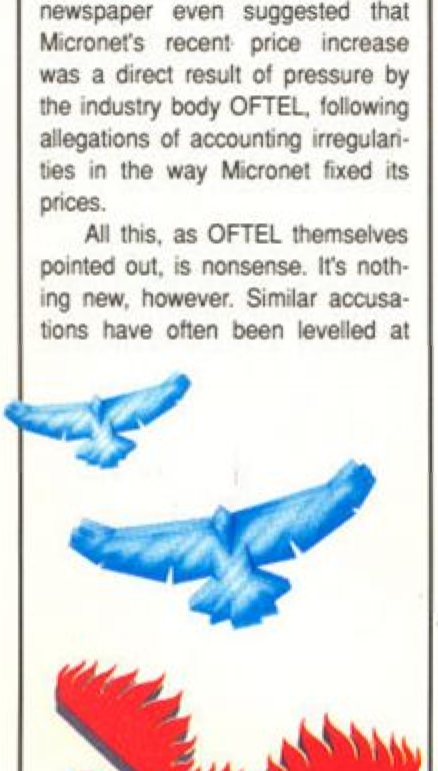
The game is initially available via mail-order only from July 7th (see coupon on ad). It should be in the shops by the end of July. The company are also investigating the possibility of producing more question sets.

WHO'S AFRAID OF THE BIG, BAD BIRDS?

The fur has been flying recently over allegations that Micronet, a company partly-owned by British Telecom, have been using their BT connections to hold down prices in unfair competition against other on-line games publishers.

The idea is that if you can make use of Big BT's buying power, sooner or later you can put everyone else out of business. One newspaper even suggested that Micronet's recent price increase was a direct result of pressure by the industry body OFTEL, following allegations of accounting irregularities in the way Micronet fixed its prices.

All this, as OFTEL themselves pointed out, is nonsense. It's nothing new, however. Similar accusations have often been levelled at Telecomsoft. Rainbird, Silverbird, and Firebird are beginning to prove a very potent combination and some people in the industry actually seem to be afraid of our feathered friends. They reckon that in Telecomsoft's case, big is bad, bad, bad. Here's a company, they say, which represents a deadly form of cheque-book publishing – a company who can march into the market and spend millions...and so what if they lose a bit of cash? They can afford to. Others can't.



For example, Telecomsoft paid a rumoured £1 million for Beyond. Whatever the real sum involved, they certainly can't have made much money out of that. And what about Odin? Another label bought and then lost in the mists of time. Transactions such as these would surely have sunk any normal software house, but Telecomsoft can just keep marching on, leaving less well-endowed companies to bite the bullet.

'From a commercial viewpoint,' complains one well-placed industry source, 'I doubt if they're making a profit. They're strong in the 16-bit market, where the games are more expensive, but the number sold is far less.'

Telecomsoft, however, are quite adamant that all this is rubbish, understandably when their accusers take cover behind anonymity.

'This is a load of nonsense,' retorts company supremo Paula Byrne, 'Frankly we've heard all these criticisms three years ago. We've gone past all that now and are very happy with our performance.

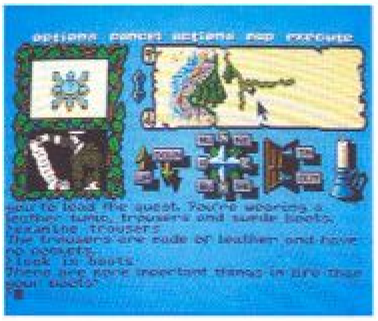
'The reason Telecomsoft puts out such high quality product is that top programmers want to work with Telecomsoft as they trust the name of British Telecom.

'That aside, Telecomsoft has a large development team of 14 people who offer our programmers support and help through the development of each product. Royalty statements are honest, with payments made ontime to allour programmers.

'Incidentally, Telecomsoft pays its own phone bills, rent, accomodation etc., and furthermore it is not in British Telecom's interest to support unprofitable businesses.'

Perhaps the last word should go to Andrew Hewson, who lost two of his best programmers – the notorious Turner and Braybrook – to BT last year. Surprisingly, he's all in favour of the big boys: 'It doesn't matter how big your cheque-book is – if you make silly decisions, you're still going to lose money. The only difference is that those with money can afford to go on making mistakes longer – and if someone in the industry can afford to train people in that way then it can be of benefit to all of us.'

Looks like the training period is over for Telecomsoft – this month sees no less than four strong titles from the Birds – *Virus*, *Whirligig*, *Legend of the Sword* and, imminently, *Starglider 2*. Watch out everyone – these birds are BAD!



***Legend of the Sword* - more birdseed. Check it out on page 74.**

● IS BIG BEAUTIFUL?

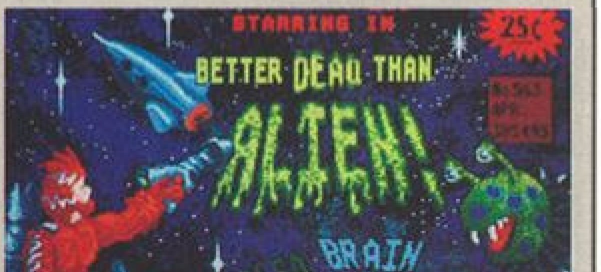
Do we really want large companies dominating the games scene, or do we have a secret hankering for the days of attic programmers who sell their own games at fairs and are accessible and (sometimes) responsive in a way that large companies can never be? The good news is that perhaps soon we'll be able to have both.

Electra's the name of a brand new software house that just goes to show that even nowadays size isn't everything. What's more, they could point the way to a whole new style of games programming and production that may have important repercussions for us gamesplayers.

Since the big companies have lots of money to spend, a whole host of small companies have sprung up offering programming, marketing, and sales services for the giants. This means that it's now possible to launch your own software house by getting Small Company A to do the coding, Small Company B to do the production, and Small Company C to do the marketing and sales.

That's just what Electra have done. Oxford Digital Enterprises have written the game, a shoot-em-up for the ST and Amiga; SPA are doing the production; and Entertainment International are managing the sales. Hey presto – the little birds gang together and up springs a whole new label.

This sort of flexibility is something quite new in the games business, where previously launching a label cost many thousands of pounds, required a large office, and lots of in-house talent. It could bring greater publishing power to the small guys – like Arcana of Powerplay fame, for example – who can produce great software but may not have the muscle on their own to publish it. In some ways, it's a return to the days of the attic programmer, Jeff Minter-style – small, imaginitive concerns who can move quickly with the market and deliver hot products. Let's hope Electra can set an example that will inspire others to go the same way...



Electra's *Better Dead Than Alien*, sliming over a shelf near you soon.

SNIPPETS...

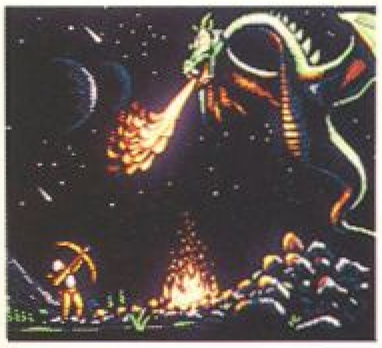
Up and coming titles for your micro

GALDREGONS DOMAIN

Pandora

Atari ST		£19.95dk

From the people that brought you *Into the Eagles Nest* comes a romp in the lands of fantasy. It's a quest for the five gems of Zator, which, when brought together, naturally bring you ultimate power. The game is played over six levels where you battle the minions of the wizard Azazael. Features promised are a 32-colour screen, player-monster interaction, hundreds of locations, loads-a-characters and a huge gameplay map. Wonder how they're going to map gameplay?



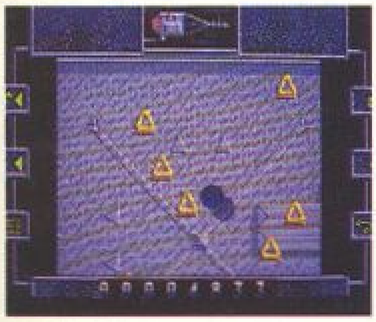
Atari ST - *Galdregons Domain*

DEBUT

Pandora

Atari ST		£19.95dk

Also coming soon from Pandora is this mixture of arcade action, simulation and strategy, where you're trying to stabilize the ecosystem of a planet. To do this you have to control the weather system, process food chains, redistribute the population and try to stop wars and pollution. Looks like we can all play at being God again.



Atari ST - *Debut*

JOE BLADE 2

Players

Spectrum	£1.99cs	

The original game did well amongst the ranks of budget software and now the main character's back as a London vigilante. His task is to clear the streets of muggers and punks (since when was being a punk a crime?) and save the ordinary citizens held prisoner in their own homes.

BLACK TIGER

GO!

Spectrum	£8.99cs	
C64/128	£9.99cs	£11.99dk
Amstrad	£9.99cs	£14.99dk
Atari ST		£19.99dk

This is the latest of GO!'s Capcom conversions and plunges the player into the usual plethora of monsters, demons and dragons. The idea is to rescue wise men who may then sell extra weapons. End-of-level guardians and time limits also get in on the action. Expect this one in September.

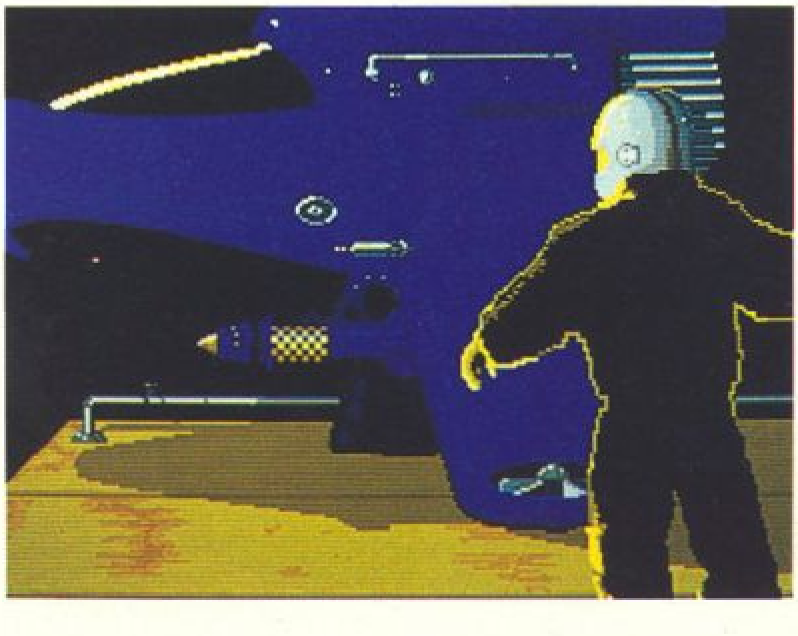
THE FURY

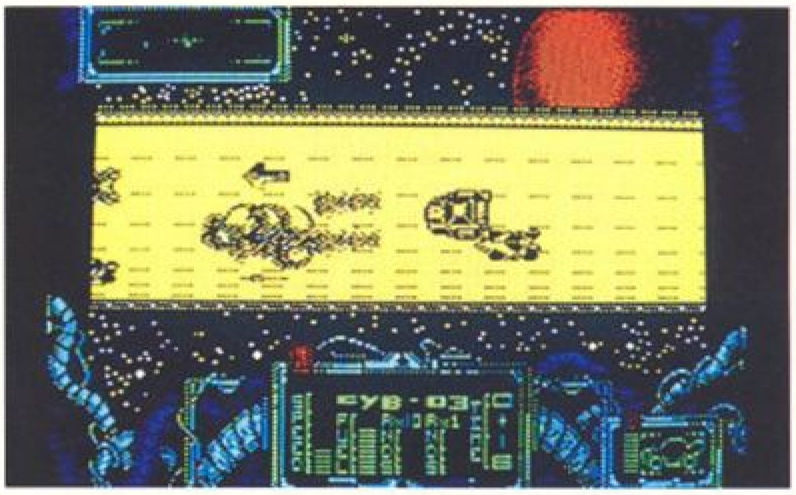
Martech

Spectrum	£8.99cs	£14.99dk
Amstrad	£9.99cs	£14.99dk
C64/128	£9.99cs	£12.99dk

This looks like being the latest in wacky racing games. This one is set on a track floating in space called the Fury where the universe sends its champion drivers. Of course you've got to uphold Earth's honour against all-comers. Knock other drivers off the track, shoot them, play tag or even make a dash for the line on foot if your engine cuts out. No wonder Nigel Mansell isn't endorsing this one – a formula one grand prix sounds easy by comparison.

Mars Cops





Spec - *The Fury*

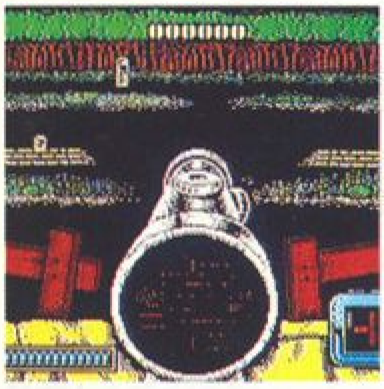
19

Cascade

C64/128	£9.95cs	£14.95dk
Spectrum	£9.95cs	

Probably the first time a game has been based around a record – Paul Hardcastle's electronic special that went to number one. The game was delayed from last year but is now progressing towards release. The action starts in boot camp with training before you get on to the hard stuff.

Spec - *19*



DREAM WARRIOR

US Gold

Spectrum	£8.99cs	
Amstrad	£9.99cs	£14.99dk
C64/128	£9.99cs	£11.99dk
IBM PC		£19.99dk

A shoot-em-up that takes place entirely in your dreams, or is it the offices of Megabuck Inc? Well, either way you're going to run into a lot of demons, aliens, minions, psyglobes and all the other nasty things that pop up when dreams turn into nightmares. The final task is to close once and for all the six eyes of Ocular, destroying the power source of the Focus. It's enough to put you off sleeping.

RALLY RUN

Mandarin

Atari ST		£19.95dk
Amiga		£19.95dk

A simulation based on the Lombard RAC Rally, and in which you get to be a back seat driver. That's your viewpoint, but you've still got to change gear, steer, take the navigator's directions and generally not crash. Features will include damage reports and the chance to enhance the car.

MARS COPS

Arcana

Atari ST		£19.95dk
Amiga		£19.95dk

Arcana's somewhat delayed game is nearing completion. It's a one-player space pursuit game in which you have to defend the colony on Mars from the UFOs that have entered the solar system. Arcana say the game is faster and leaner, combining strategy and shoot-em-up. Due out at the end of August.

Mars Cops

WIN AN AMIGA!

Has your ACE card come up trumps this month? There are 25 great prizes.

For everyone who received a free ACE card on the cover of the April Issue, here's another great opportunity to win prizes.

Using the same program as last time, just type in the 25 new 4-letter codes printed on this page. If the program converts one of them into your personal number, you're a winner!

If you missed the April ACE, you can still get hold of an ACE card – see the box for details.

LOOK AT THESE PRIZES!

ONE 1st PRIZE: *AMIGA + COLOUR MONITOR*
The winning code: ALNS

FOUR 2nd PRIZES: *£50 of software – chosen from the ACE Special Offer pages*
The winning codes: CZVM• ENAC• ARKR• CZKA

TEN 3rd PRIZES: *£25 of software – chosen from the ACE Special Offer pages*
The winning codes: DZNL• EFQG• DSRK• CAWO• BOGW• BDIM • EIFZ• ABSS• AACC• BYKI

TEN 4th PRIZES: *A year's free subscription to ACE magazine*
The winning codes: AWAD• BBZL• DOIS• AABR• ELAS• CSVW • DOTG• EKUR• BSHP• DFXS

HOW TO CLAIM A PRIZE

If you are one of the winners, you may claim your prize simply by posting us your ACE card together with a note saying which prize you are claiming (and from which issue of ACE).

If your prize is for software, list carefully the software you would like from the selection printed in the ACE Reader Offer pages (94-95).

Assuming your claim is valid, we will forward your prize and return your card within 28 days (probably much sooner).

Post to: ACE CARD PRIZE CLAIM, 4 Queen Street,
Bath BA1 1EJ ***Closing date for claims August 12th, 1988***

HOW TO OBTAIN AN ACE CARD

If you missed the April issue of ACE, you may obtain an ACE card free of charge by sending us a stamped self-addressed envelope together with a signed statement saying that neither you nor anyone else in your household already owns an ACE card. Apply to
ACE CARD REQUEST, 4 Queen St. Bath BA1 1EJ
(This offer valid while stocks last).

THE DECODER PROGRAM

This short program listing will DECODE the 4-letter codes printed below next to the prizes. It turns each code into a five-digit number such as the one printed on your ACE card. All you have to do is type-in the program using the instructions for your computer printed below.

Then RUN the program. It will ask you to input each of the prize codes in turn and will then reveal on screen the winning numbers. If your number comes up, YOU CAN IMMEDIATELY CLAIM YOUR PRIZE!

If you are unable to get the program to work, a list of the winning numbers, correctly decoded, may be obtained by sending a stamped addressed envelope to:
ACE August winners list, 4 Queen Street, Bath BA1 1EJ

C64, CPC, ST, AMIGA version

```
10 FOR A=1 TO 25:INPUT "Code";B$
20 B=0:FOR C=1 TO 4:B=B•26
30 D=ASC(MID$(B$,C,1))
40 IF D>90 THEN D=D-32
50 B=B+D-65:NEXT C:PRINT "Winning Number is";B:NEXT A
```

SPECTRUM version

```
10 FOR A=1 TO 25:INPUT "Code";B$
20 LET B=0:FOR C=1 TO 4:LET B=B•26
30 LET D=CODE B$(C TO)
40 IF D>90 THEN LET D=D-32
50 LET B=B+D-65:NEXT C:PRINT "Winning Number is";B:NEXT A
```

TYPING IN THE PROGRAM

SPECTRUM

48K: Power on, and type the Spectrum listing in as shown, pressing ENTER at the end of each line. To get the word CODE in line 30, hold down caps shift and symbol shift keys together and press the letter I key. When you've typed all five lines in correctly, press R (for RUN) followed by ENTER. Now type in the codes one at a time, pressing ENTER after each one: the program will stop after you've typed in all 25 codes.

128K: Select 128K BASIC mode from the start-up menu and type in the Spectrum listing as shown, hitting ENTER at the end of each line. Type RUN, hit the ENTER key again and type the codes in as for the 48K Spectrum above.

C64/128

Type the listing in as shown, hitting the RETURN key at the end of each line. Type RUN (Don't use the RUN/STOP key), hit RETURN and then type the codes in one after the other.

AMSTRAD CPC

Type the listing in as shown, hitting the RETURN key (6128) or the larger of the two ENTER keys (464 or 664) at the end of each line. Type RUN and hit RETURN or the large ENTER key again - don't use CONTROL and the small ENTER key here - and type the codes in one after the other.

ATARI ST

Put the LANGUAGE disk in the drive and switch the ST on. Double-click first on the drive A icon and then on the BASIC.PRG icon to boot Basic. Type EDIT and press the RETURN key. Now type the listing in, hitting RETURN after each line, and press the F10 key when you've typed all five lines in. Now type RUN, press RETURN again, and type the codes in one at a time.

AMIGA

Switch on, put your 'Workbench' disk into the drive and wait for the desktop to appear. Now put your 'Amiga Extras' disk in the drive, double-click on the EXTRAS icon and then double-click on the AMIGA BASIC icon. Type the listing in as shown, hitting RETURN after each line, and then click on the BASIC (rather than the LISTING) window. Type RUN, hit RETURN and then type the codes in one at a time.

OTHER MACHINES

The 'C64, CPC etc' listing is standard MicroSoft Basic, so it ought to work on most micros. If you can't get it to work on yours, write to us for a list of winners — details of this are printed above.

RULES

1.This promotion is open to everyone with the exception of employees of Future Publishing Ltd and anyone involved in the distribution or retailing of Advanced Computer Entertainment magazine.
2.Ownership of the ACE card is limited to one per household.
3.Each four-letter code printed in the magazine corresponds to a winning 5-digit number on one of the ACE cards.
4.The codes must be correctly decoded using the program printed each month in this magazine.
5.Claims for prizes must be received by first post on the closing date at the latest. The value of any unclaimed prizes will be carried forward to future issues.
6.If, due to a production error, more than one person claims a single prize, the publishers reserve the right to divide the prize between the claimants.
7.In the event of any dispute, the decision of the publishers is final.

STARGLIDER 2

In the beginning there was a void, a blank memory without form or purpose.

And ARGONAUT Software looked upon the void and said . . .

'LET THERE BE FLIGHT'
. . . and there was STARGLIDER.

And as time progressed, the art of three dimensional solid graphics became known unto the ARGONAUTS, and they rejoiced.

And they said . . .

'LET US CREATE THE ULTIMATE PROGRAM, TO HAVE DOMINION OVER ALL OTHER PROGRAMS IN THE UNIVERSE'

. . . and there was a blinding light and the Earth spat fire and trembled.

And as the fire diminished and the vapours cleared, the fruits of their labours emerged from out of the chaos.

THE ULTIMATE CREATION!

STARGLIDER 2 . . .

. . . A VOYAGE INTO THE THIRD DIMENSION.

BY ARGONAUT SOFTWARE

Atari ST/Amiga £24.95

RAINBIRD

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TALLY HO!

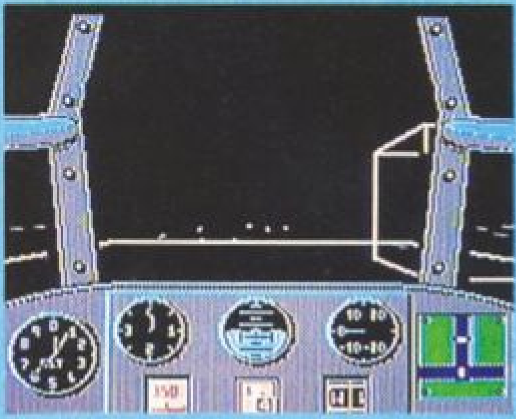
Yes, it's true. You can get yourself on the road to winning your very own Private Pilot's Licence with ACE – in conjunction with Gremlin we're offering the winner of our competition £700 worth of flying time completely free. Alternatively, you could plump for a mouthwatering state-of-the-art radio-controlled plane that really puts the **solid** into solid 3D!

NIGHT RAIDER – THE GAME

Gremlin are offering the prizes to celebrate the launch of their latest game, *Night Raider*, available for the Commodore 64/128, Atari ST, Spectrum, and Amstrad CPC micros and burning into a shop near you as you read this.

The game claims to be the 'ultimate flight simulator – shoot-em-up' and blasts you into the skies at the controls of a sophisticated bomber – your mission: sink the Bismarck.

You'll need to practise navigation and gunnery skills before tackling the Bismarck and create your own flight plan, bearing in mind that the HMS Ark Royal, the aircraft carrier from which you took off, may also be under attack and need protection if you're ever to get back home!



Night Raider

TAKE TO THE SKIES WITH GREMLIN IN OUR HIGH-FLYING COMPETITION...

HERE'S WHAT YOU HAVE TO DO

To enter the competition, all you have to do is use your knowledge of pilots past and present to answer the three questions on the coupon below. Then enter your name and address and post the coupon to:

ACE Night Raider Competition,
4 Queen Street
BATH.
BA1 1EJ

The closing date for entries is 4th August 1988. The prize will go to the first correct entry chosen at random from those received before the closing date and the prizewinner will be announced in the October issue of ACE. Employees of Future Publishing Ltd and/or Gremlin are ineligible for entry – hard luck lads!

THE PRIZE

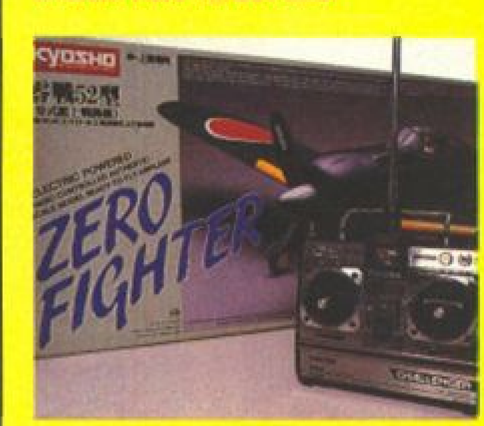
EITHER:

£700 worth of flying lessons (or simply flying time if preferred) at absolutely no cost to you. We can arrange for the prize to be taken at an airport close to your home. You'll probably be flying in an aircraft like the one pictured below and with your instructor will be able to master the basics of flying technique and theory – great practice for playing *Night Raider*!

Naturally a full pilot's licence requires a greater investment in terms of time and money than is provided for by the prize, but it will certainly give you a headstart should you be serious about flying – not to mention the thrill of lifetime!

OR:

A Kyosho Zero Fighter complete with electric-powered motor and radio-control unit, plus a Futaba state-of-the-art digital radio control system. Domination of the skies around your home could soon be yours! Lets face it, this is the sort of solid-3D flight simulator that's REALLY solid!



ENTRY FORM

NAME ....

ADDRESS ....

.... **TEL** ....

Tick the box next to the correct answer to the three questions below:

1. Who took the lead role in the film *Reach For The Sky* about the air ace Douglas Bader?
a) Marilyn Monroe ☐
b) Kenneth Williams ☐
c) Kenneth More ☐

2. Who was the first pilot to break the sound barrier?
a) Chuck Yeager ☐
b) Dan Dare ☐
c) Charles Brown ☐

3. Which pilot carried out a forced landing in a famous international incident?
a) Ronald Recton ☐
b) Pete Connor ☐
c) Gary Powers ☐

SPECTRUM 48K/128

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- FORMULA I SIMULATOR
- BRIAN JACK'S SUPERSTAR CHALLENGE
- TAU-CETI
- PARK PATROL

AND MANY MORE!

BEAU-JOLLY

THE NAME BEHIND THE GREAT GAMES

STAR

Brought to you by the team who produced the top-selling STAR WARS® game, THE EMPIRE STRIKES BACK ™ is the next stage of the unfolding drama.

This game follows the non-stop action of the movie and is a direct conversion of the famous coin-up.

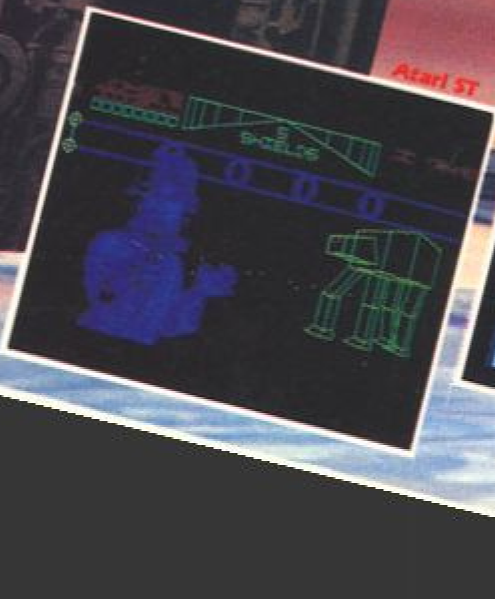
The player takes the role of Luke Skywalker, piloting a snow-speeder against the huge Imperial Walkers. Darth Vader controls his forces with deadly cunning, using his Probots to search and attack the Rebel Base.

The action continues as the player becomes Han Solo in the Millennium Falcon, looking for safety in the galaxy whilst being attacked by Tie-Fighters and dodging asteroid storms.

May the Force be with you – Always!

WARS®

EMPIRE STRIKES BACK
EMPIRE STRIKES BACK



Atari ST

Spectrum

SHOOT PROBOTS AND THEIR TRANSMISSIONS
CBM 64

Programmed by
VEKTOR Graphix

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& TENGEN.
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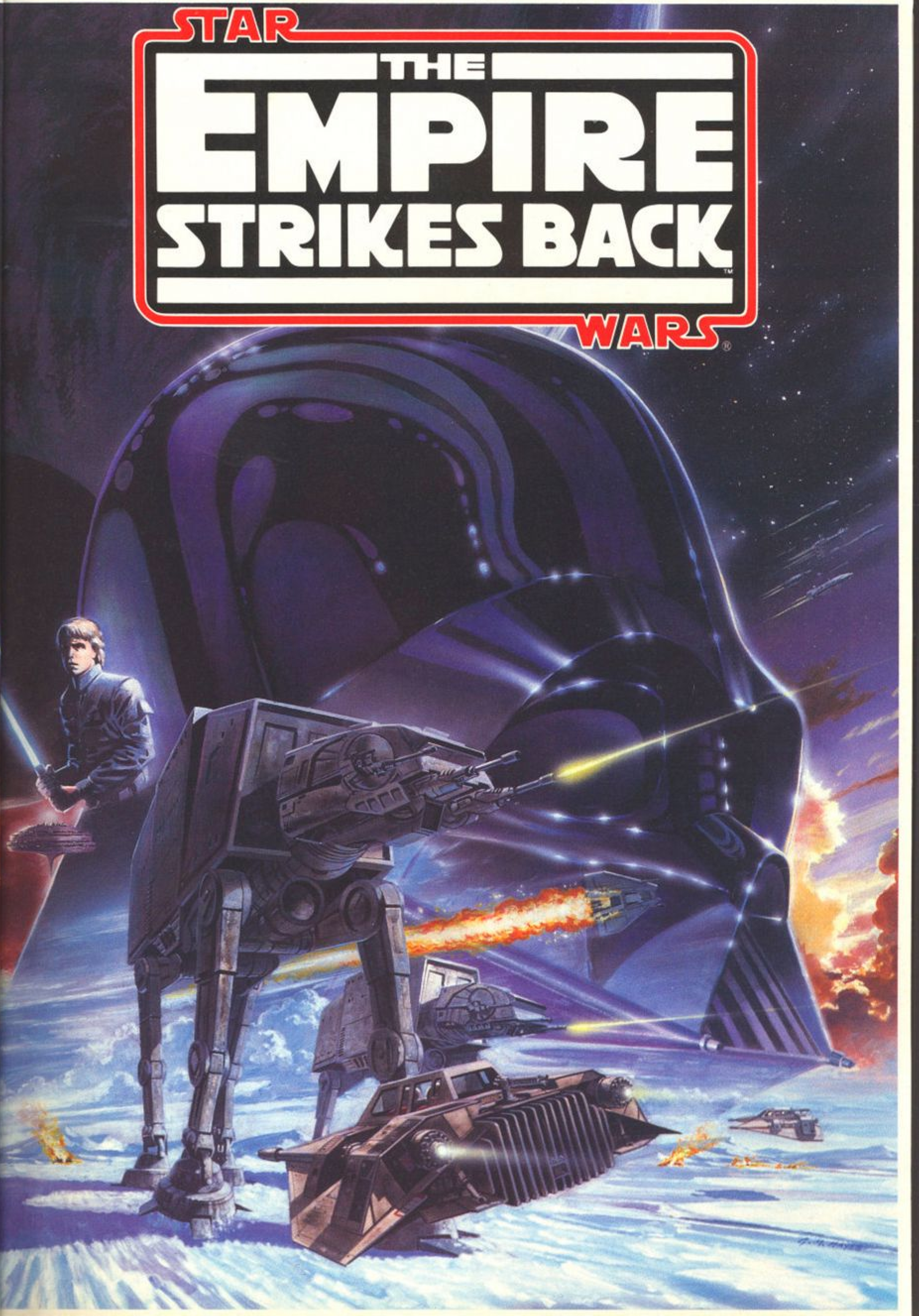
STAR WARS
THE EMPIRE STRIKES BACK™



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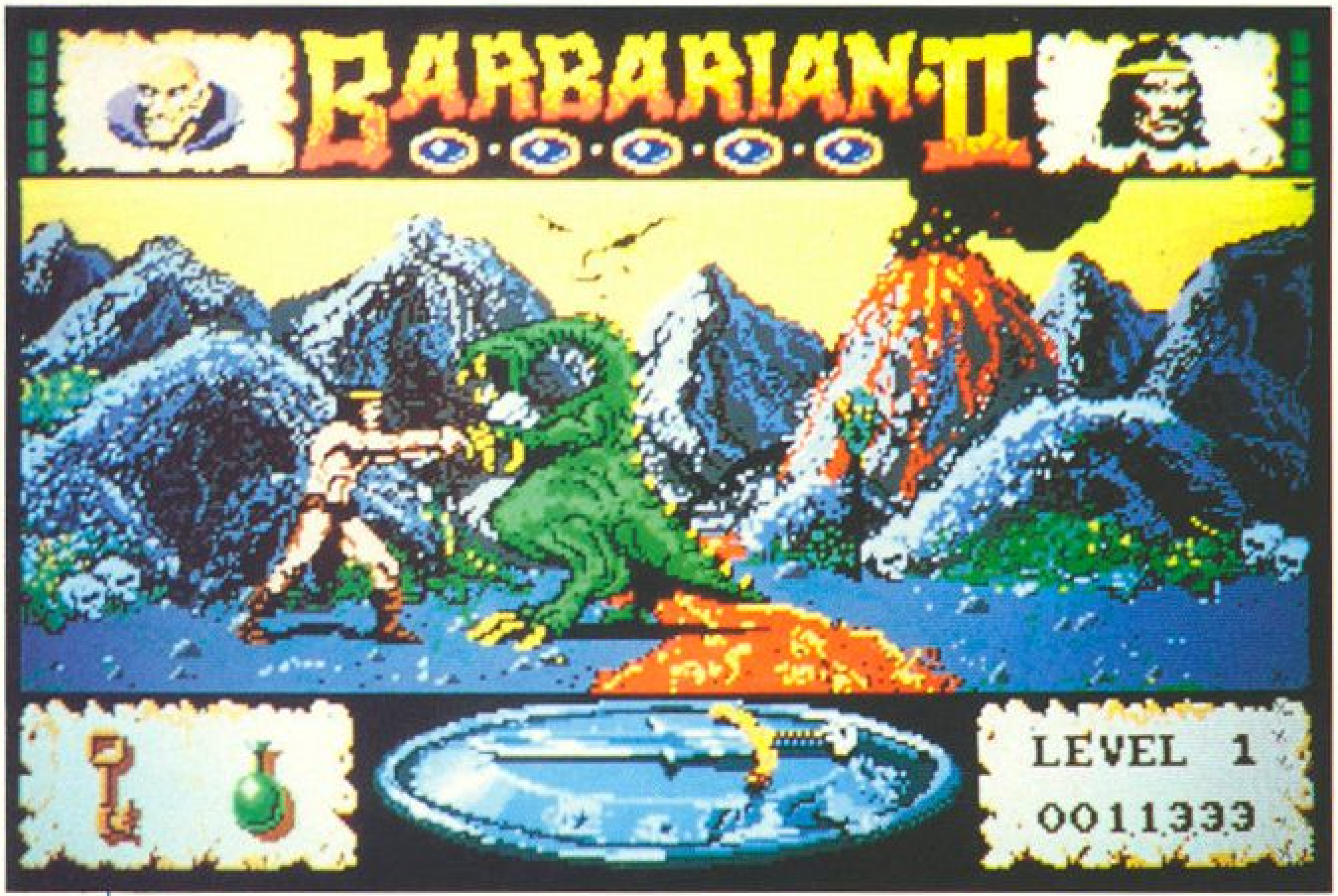


BARBARIAN 2

Palace

Yo Larry, he's back – and he's got a big sword. Not only that but the princess is tooled up and ready to go bad guy beating as well. In this version our heroes are free of the confines of one-screen action and can roam a mappable playing area taking on all manner of head-cleaving monsters. Prepare to be shocked – or at the very least run through with a broadsword.

ST – have at thee, foulbreathed demon.

HIT FOR SIX

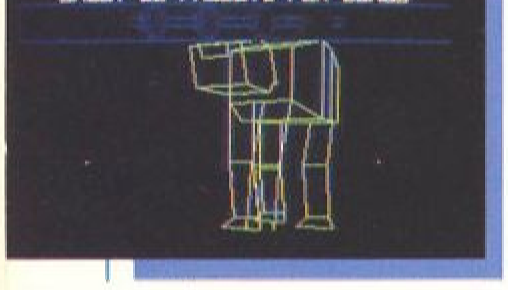
The software houses have won the toss and elected to bat. We'll soon be hearing the thud of packaging on shelves – 'and what a fine delivery that is'. Will they be making impressive scores of 900 not out, or trudging back to the pavilion with a duck? Better get your helmets on and prepare for some fast scrolling. There will be some pretty fine efforts, hits for six and the odd game that gets caught out, bowled over, stumped and run out by silly points. Now over to Radio 4 where during the tea interval Brian's about to enjoy a nice slice of cake and a game of *Virus*.

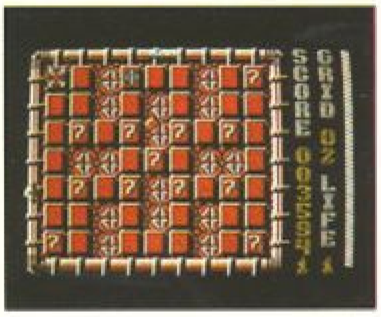
THE EMPIRE STRIKES BACK

Domark

Hardly has the wreckage of the Death Star settled, than up pops the Empire keen for a new fight. Once again, the game is based on the hugely successful coin-ops, themselves based on the films. Vector graphics are much in evidence as you tangle with the fighters, walkers and anything else Darth Vader can think of to throw at you.

Spec – a walker lumbers towards you, but how do you bring it down?



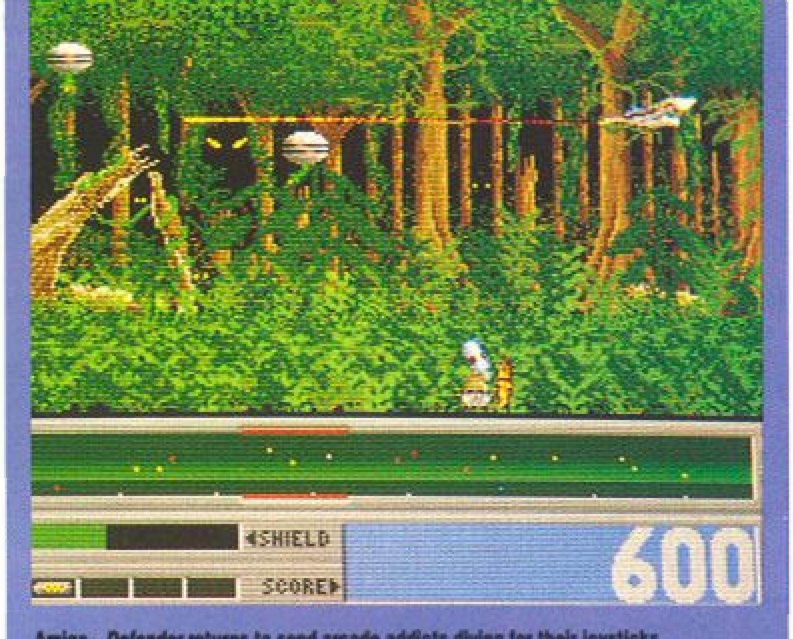


C64 – is anywhere safe to tread?

OOPS!

Big Apple

New software house Big Apple will give plenty of players the pip with this devious arcade puzzle. You've got to travel on the blocks to pick up objects, while avoiding the holes and other dangers. If you go on a question mark it could be good, but it could be disaster. Looks like an interesting beginning for the new boys.



Amiga – *Defender* returns to send arcade addicts diving for their joysticks

STAR RAY

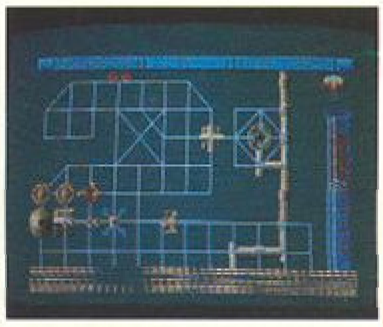
Logotron

Defender makes a comeback in this scrolling shoot-em-up. Remember all those little people to protect? Those hordes of aliens to zap? Those nasty mutating things that never knew when to stop coming after you? Well here it is all over again, but with classy 16-bit backgrounds.

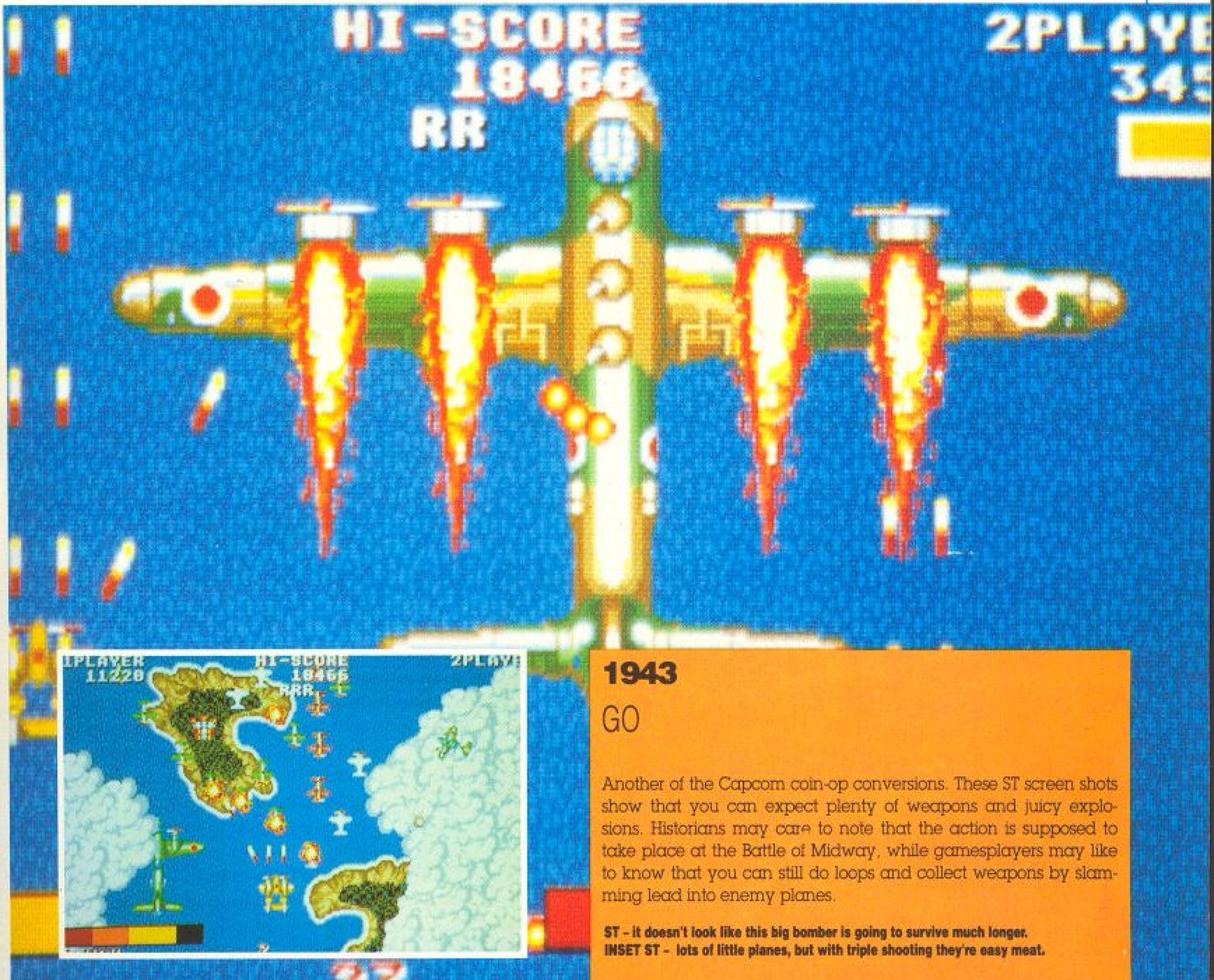
TETRA QUEST

Microdeal

The latest from the producers of *Leatherneck* and *Goldrunner* is a weird mixture of shoot-em-up and exploration. The strange thing here is that your craft is confined to a grid and has to collect objects without encountering the other robotic inhabitants of the pathways. Judicious use of teleports and lasers helps things move along.



ST – a grid of hazards to test your reflexes.



1943

GO

Another of the Capcom coin-op conversions. These ST screen shots show that you can expect plenty of weapons and juicy explosions. Historians may care to note that the action is supposed to take place at the Battle of Midway, while gamesplayers may like to know that you can still do loops and collect weapons by slamming lead into enemy planes.

ST – it doesn't look like this big bomber is going to survive much longer.
INSET ST – lots of little planes, but with triple shooting they're easy meat.

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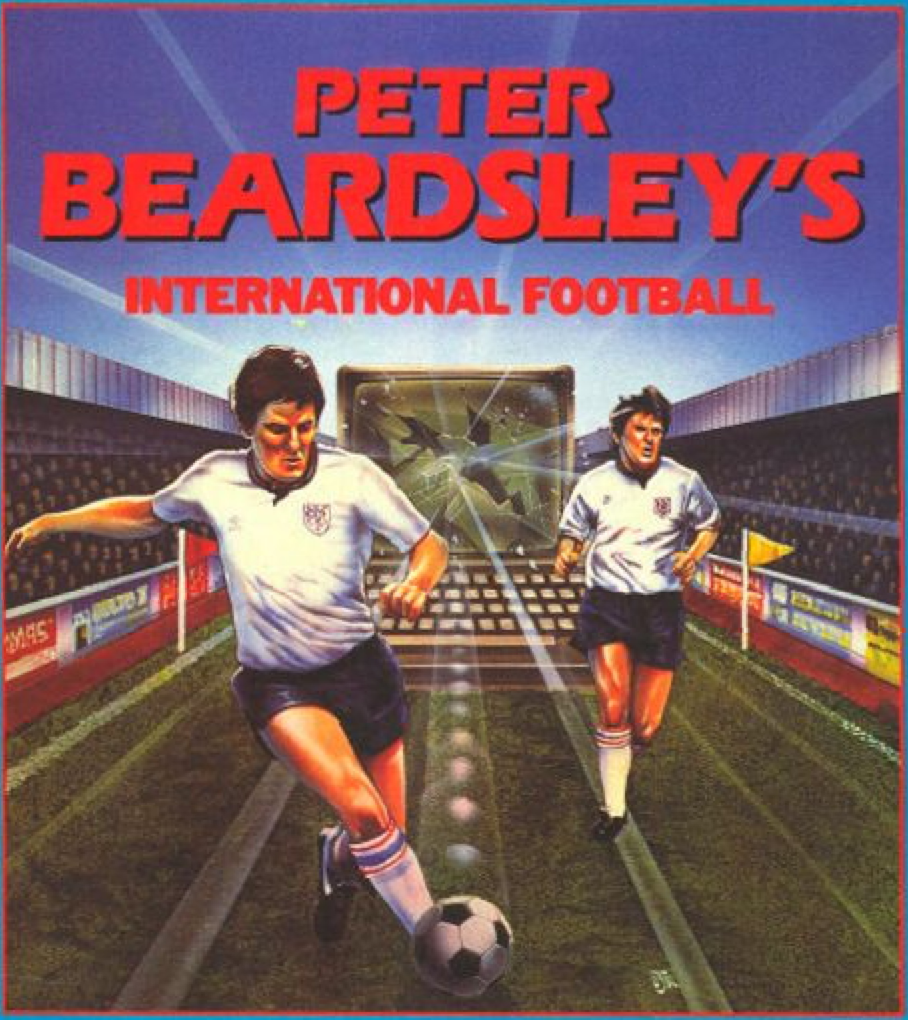
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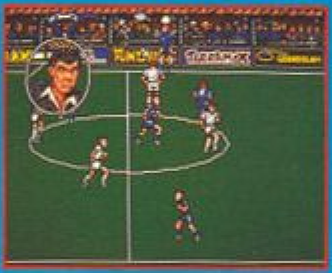

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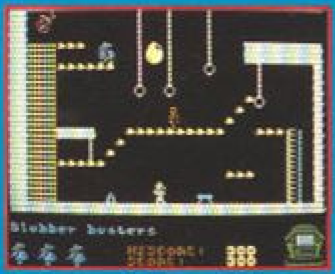
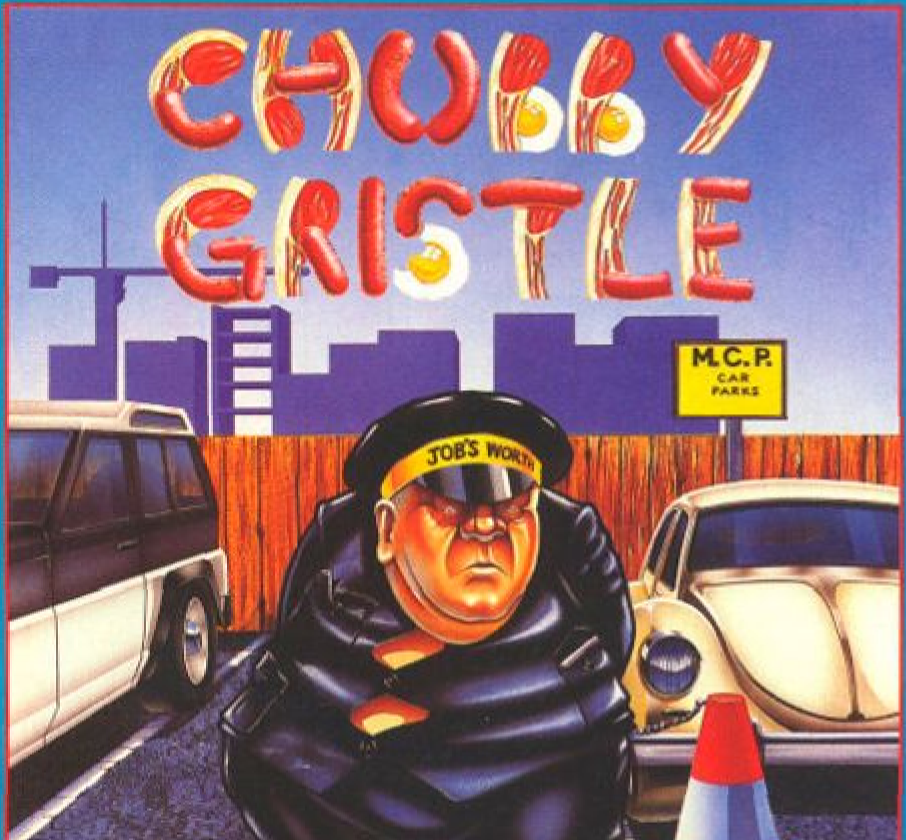

Blubber busters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BACK TO BASICS

After a few months' break – you HAVE been diligently practising all the tricks revealed in the first three instalments HAVEN'T you? – it's time to go back to basics...literally.

Behind every good picture sits a good behind: with a well thought-out background, flatly-drawn objects can jump out at you and dull subjects positively glow with added meaning.

However, if you examine the majority of published computer-generated pictures – whether they are Spectrum-drawn doodles or state-of-the-art raytracings – two sorts of background predominate: an almost flat horizon at infinity, or none at all. The classic examples are checkerboard surfaces reflected in mirrored balls and 'the last frontier' – space! The reasons for using such simple backgrounds are themselves simple – lack of skill, and the need to emphasise depth in the most memory-efficient way.

Historically, most well-known computer artists were not in fact artists, they were scientists and programmers, until recently the only people with access to machines capable of computer graphics. However far-seeing and imaginative they were technically, artistically their vision was limited. 'Science fiction' images predominate, especially of 'space' where many of the artistic rules can be abandoned – there is no ' up' or 'down', for example. The visual limitations of these early artists were further exaggerated by technical constraints. Early computers were very short of memory so pictures had to create visual effects very economically – the Lines of Sight box gives some elementary examples.

LINES OF SIGHT

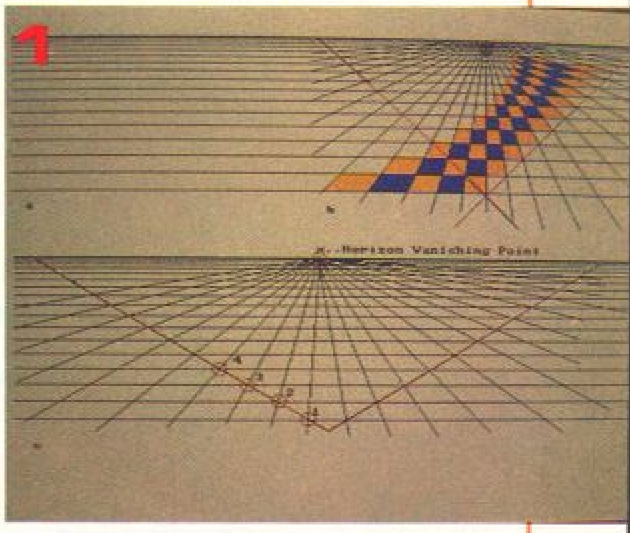
Since images are created on-screen as a series of horizontal lines scanning from top to bottom, the easiest and most memory-efficient way to program a simple background emphasising depth is to draw a series of horizontal lines with progressively increasing intervals between them. Although modern drawing programs are much less constrained by memory size this principle is still of use – see picture 1a.

The illusion of depth created by horizontal lines can be enhanced with a series of lines radiating from a point on the horizon to provide perspective. If colour and area fills are available then the spaces between the lines can be filled. With just 2 colours and this simple pattern of lines a very effective sense of depth is created by the checkerboard picture 1b.

Checkerboards and mirrored spheres are now perhaps the worst cliches of computer graphics. Nevertheless this basic perspective grid can be very useful as an underlying structure in any landscape drawing. It can be constructed quite simply and stored on disk to be brought back as a starting point for many landscape pictures.

The horizontal lines can be drawn with any progressively increasing interval between them. Picture 1 uses the simplest progression: 1, 2, 3, 4, 5...etc but the same numbers squared (1, 4, 8, 16...etc) would also work. To draw the perspective lines to the vanishing point with the correct spacing can be difficult. A diagonal line passing through the grid square that you are 'standing on' would pass through the opposite corners of one square on each parallel row to a point on the horizon close to the edge of the screen.

If you draw these 'construction lines' (shown in red on picture 1c) it is relatively easy to draw the radiating perspective lines from the horizon vanishing point through each point that the construction lines cross, e.g. from x through 1, 2, 3, 4, etc. (circled in red). The angle between the red diagonal construction lines should always be greater than 90 degrees or distortion will occur.

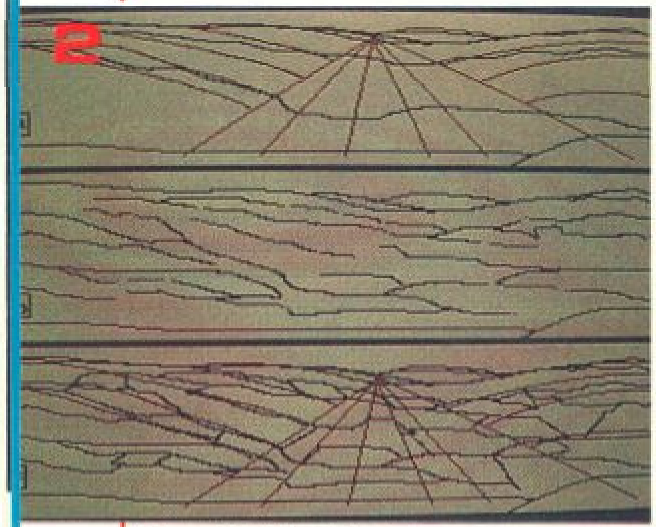


- a. **Horizontal construction lines – each gap is one pixel wider than the one above (0, 1, 2, 3, etc)**
- b. **Perspective construction lines showing checker board effect.**
- c. **Perspective grid. Red diagonals should be at greater than 90 degree angle to avoid distortion.**

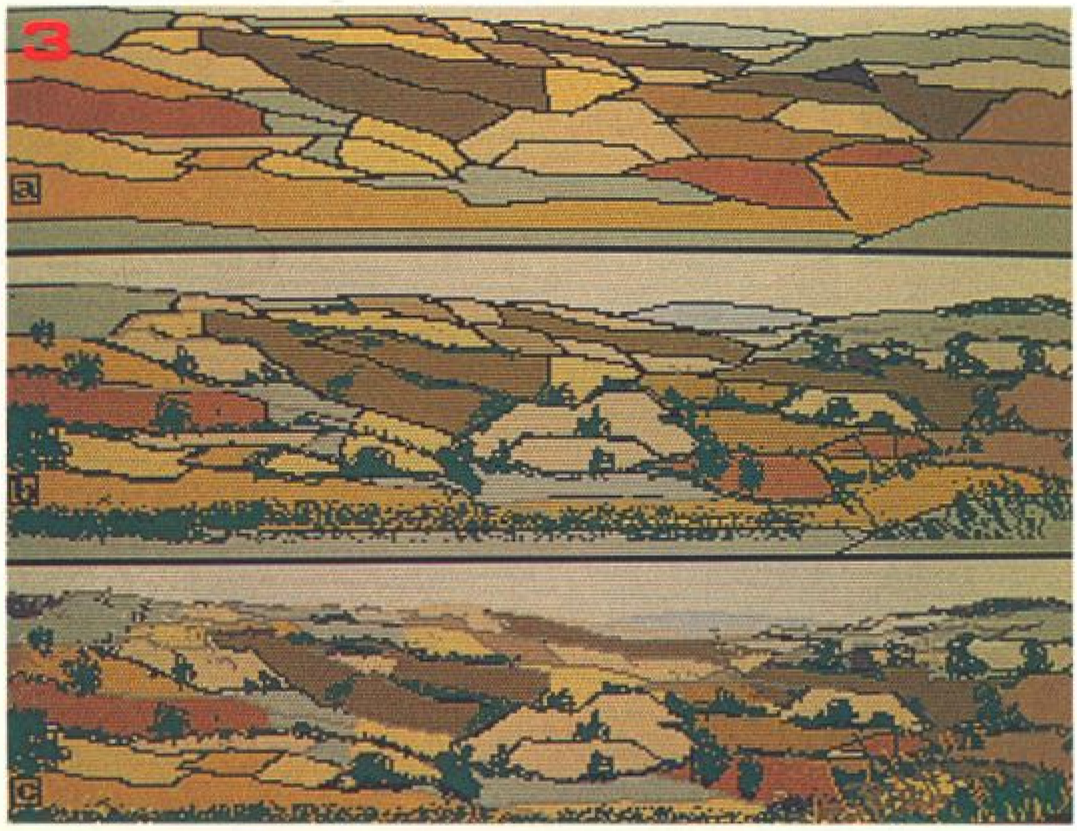
For many drawings it is not really necessary to use such an elaborate grid as that described in the Lines of Sight box, however. If the basic form is known, simple construction lines can be drawn and the details of the landscape built up over them depending on the type of terrain. Picture 2a shows a much simpler construction for a flat bottomed valley with gentle hills on either side.

At this stage it is easy to try out several different points of view. Positioning the horizon line near the top of the screen can give the impression that you are looking down into a valley from a hilltop or aeroplane. A low horizon and high hills gives the opposite effect. Working from a photo or postcard can be very useful when making these decisions. Try to determine the structure of the photo and draw it in ready to copy.

If the background is to have no detail at all then the hills can be filled with colour (or patterned fills) with decreasing colour saturation (more white) toward the horizon. This sort of sparse, washed-out or misty background can prove very effective in some circumstances, but increased detail makes for a more interesting composition. Using the underlying structure of the construction lines, gradually build up a series of lines representing smaller hills, hedgerows, field boundaries, rock outcrops, sand dunes, etc... Try not to include too much detail at this stage, just structure.



Stages of building outline landscape features around construction guide lines. Red lines can be removed later using lock/exclude colours.



- **a. Outline features filled with a range of colours or fill ▶ patterns, taking care to make those in the distance have a lower saturation than those in the middle ground.**
- **b. Addition of detail, bushes, trees, rocks shadow etc..**
- **c. Dark outlines removed from distant features to emphasise distance (use exclude/lock colours)**

DIS PLATE

So you have been avidly reading our series on how to draw and paint pixels, practising every spare minute, and filling dozens of disks with your art work? And now you want to display it, show it off to the neighbours, exhibit it at your local gallery, DO something with it – but what and how?

Over the last few months a flood of packages have appeared designed to help us to make our static artwork look more interesting. The range of this software is so wide that it is impossible to keep up with reviewing it all. Instead we are going to try to mention as much as possible in a series of newsflashes here in the graphics section.

The Amiga in particular is blessed with loads of graphics utilities, packages designed not to draw with but to manipulate existing drawings. These fall broadly into two categories: image enhancement and 'Super-slide shows'. Some of the most recent items in the second group are mentioned below, and those in the first will be mentioned, together with other software and hardware items in the coming months. But first, what of the Atari ST?

In spite of its wider software base, the ST seems quite definitely to be falling behind in the area of graphics utilities. Why? Several excellent new drawing systems have appeared recently, most notably the omni-colour *Spectrum 512* and *Quantum Paint*, but when it comes to utilities nothing is in sight (Please put me right if you know different. I am willing to review any interesting and innovative graphics software for machines other than the Amiga if only I could find some!).

Once you have built up a range of images – whether grabbed using a digitiser, collected from bbs and P.D. or drawn by your own fair mouse – you can begin to present them in an interesting way. Standard 'slide show' methods are okay but what is really needed is a bit of 'production' like they use in pop videos and television.

The simplest sort of classy production is the use of fancy wipes and fades, flips and scrolls spins. *ANIMATION: EFFECTS* (Hash Enterprises/Amiga Centre Scotland £35) provides a basic access to all these special effects with Martin Hash's usual simple no-frills user interface but without much in the way of control over speed and timing. A bargain price though!

More versatility is provided by *TV*SHOW* (Zuma Group/Microdealer £88.95). Over 50 special effects are available, most of which are smooth and flicker-free in operation. Controlled via menus and excellent icons, the program is fairly easy to use, though some problems can arise if your palettes change greatly from picture to picture. A nice touch is the ability to add a spoken running commentary.

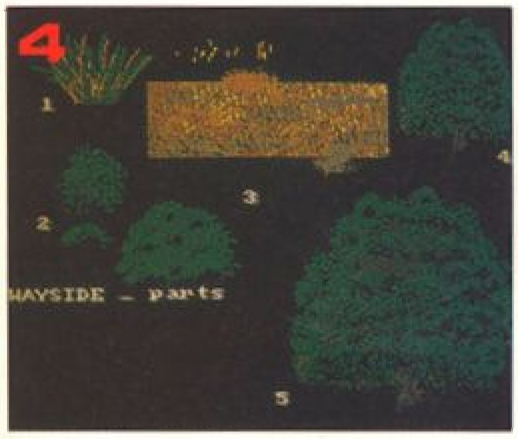
Even more control is on hand with *THE DIRECTOR* (The Right Answers Group/Amiga Centre Scotland £47) though at the expense of any sort of user friendliness. *The Director* is, to quote, '...a professional display and animation language...' . This seems a little forbidding for us spoon-fed Amigites but even a very rudimentary knowledge of BASIC (to which the language used bears a strong resemblance) allows some excellent presentations with little effort.

The most unusual utility is another in Martin Hash's Animation series – *ANIMATION: STAND*. One of the commonest TV and conventional animation effects is pan and zoom across the scene. Previously no software has allowed a smooth and effective pan or zoom across a picture. Usually, drawing programs zoom in to an area by enlarging pixels. *STAND* uses a special 'interpolation' technique to 'maintain the integrity of the detail without causing jaggies'. In practice the method works very well, creating a unique way to view your artwork.

If the construction lines are drawn in a contrasting colour like red, it is easiest to sketch over them in one base colour that suits the drawing such as yellow, olive green or mid brown. (Black is used in pic.2 for clarity). When the outline is complete (pic 2c) the red lines can be removed by locking or excluding all the other colours and painting red out with the background shade.

The next stage is to fill the areas you have sketched in with body colour, solid if you have a reasonable palette (16 or 32 shades) or pattern fills if 4 shades is your limit. Each of the areas to be filled must obviously have a continuous border. Temporarily changing the outline to a darker shade makes gaps easier to find. Even if you do not want a misty effect, making the distant colours lighter than the close ones enhances the feeling of depth. Nevertheless, the real landscape usually has a wide range of tones on a clear day so do not be afraid to use lots of shades if you have them. Picture 3a suggests this diversity without losing its depth.

The final job is to add the details of hedgerows, trees, woods, rock outcrops, roads, buildings, and most importantly shadows. If it is a bright day everything will produce a shadow. If you have a sophisticated omnicolour package like *Photon Paint* for the Amiga or *Spectrum 512* for the ST, you will be able to paint the shadows on very effectively. *Deluxe Paint* and *Degas Elite* allow a degree of shading but the palette needs to be set up properly first. An alternative method was discussed in the first instalment of this series, using patterned fills with alternative dark colour and transparent pixels. This places a dark fill over the area but allows some of the original colour to show through. A finishing touch shown in picture 3c is the removal of dark outlines, especially on distant hills.

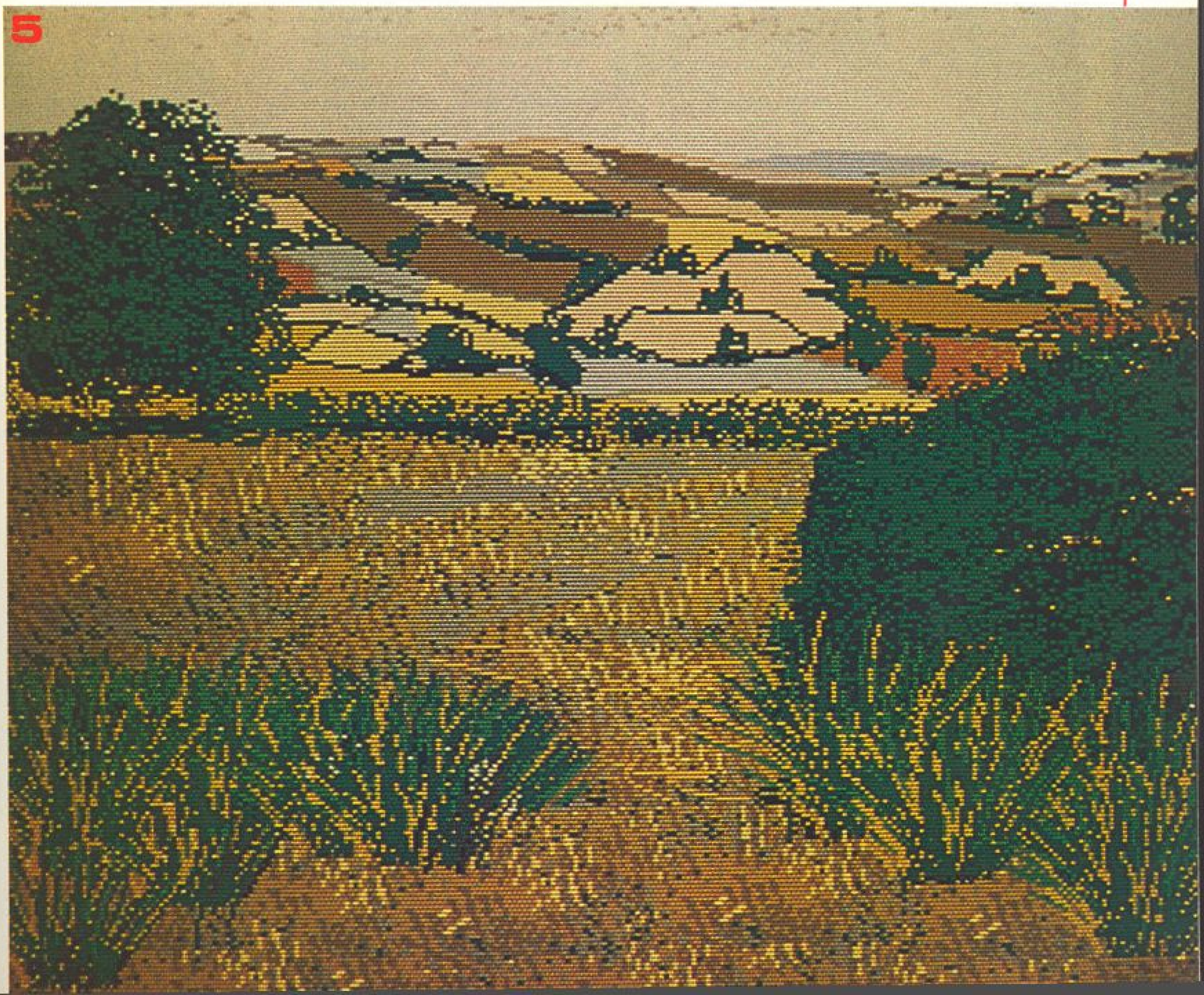


Wayside Parts. These brushes were used to achieve mid- and fore-ground detail. Paste trees and bushes twice. First to define position. Spray shadows on roughly in position. Second paste with tree exactly matching the first. Shadowed areas shown through gaps. All brushes can be scaled and flipped for variety.

HOW TO DRAW TREES

The tree in WAYSIDE was formed from a crescent shaped brush – smooth on top, broken underneath – like that at 4.2. This is repeatedly pasted down in an overlapping fashion (almost like fish scales) modelling the desired shape of tree. Branches can be drawn into the black gaps left and a trunk added. When this tree is pasted down, all of the background details show through the black/transparent areas, eliminating all shadows. This can be overcome by lightly spraying out with a dark shade the centre area of the tree just pasted then repasting the tree exactly on top once again; this time the shade shows through. If you have enough colours this process can be carried out when composing the tree originally but this tends to exclude all of the area behind the tree whereas you really need some of the background terrain to show through.

Final picture can be used as a background to any desired scene. It can be changed in any number of ways to recycle it in future pictures. ▼



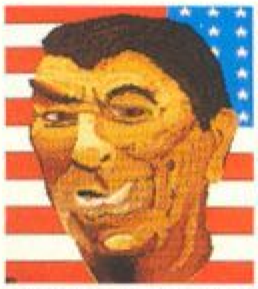
The complete picture is WAYSIDE. The background we have produced sits behind a mid-ground area of bushes, trees and field. The windows/brushes used to produce these details are shown in picture 4. In fact this was by far the easiest part of the image to produce as it is made from only three or four simple elements, a clump of grass, a bush, a tree branch and a section of meadow. These are all pasted down repeatedly, sometimes slightly altering their scale or flipping them for variety. With a bit of practice, this sort of drawing is very easy.

The great advantage of producing a background on a computer is that is can be recycled in other pictures. All the stages in the production of an image should be saved as you go along as a matter of course. When the final display is achieved the most important earlier stages should be kept for later use. Sometimes just flipping them horizontally and changing a few colours is enough, but more complex alterations can easily be made so that a particular background can be reused many times. Next month we shall look at some of the possibilities and transport rural England to some exotic locations.●

HANG 'EM HIGH!

So you think you're a pixel prodigy, eh? Get a load of this month's selection of digital masterpieces and think again...

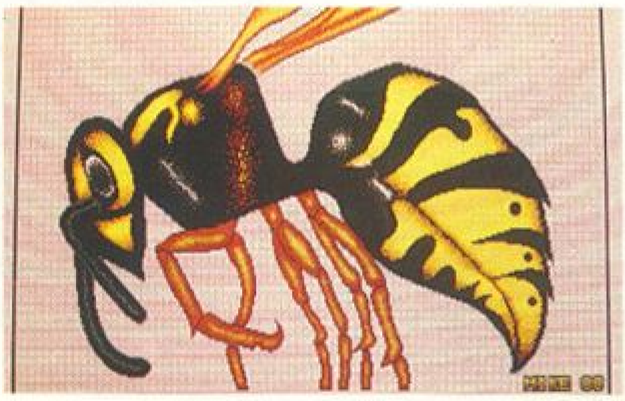
SLUGLIPS



We don't often get representations of real people sent in. The obvious reason is that they are perhaps the hardest subject to tackle effectively. Peter Gilson's version of Maggie's Favourite Man amused us though, even if he does seem to have a lower lip mutation.

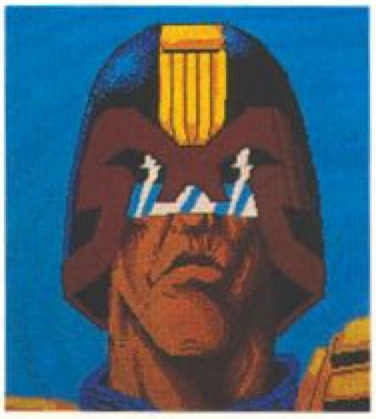
SUPERSTING

Considering this was Norwich-based Michael Pease's first ever picture with *Degas Elite*, we were very impressed indeed. Michael notes that '...colour graduation, for example from yellow to orange, was achieved using MAGNIFY and not SMEAR. The SMEAR mode I find rather clumsy and haphazard, especially in detailed work.'

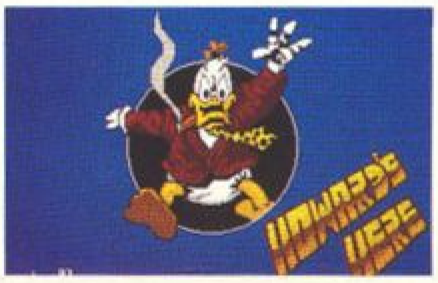


CARTOON CAPERS

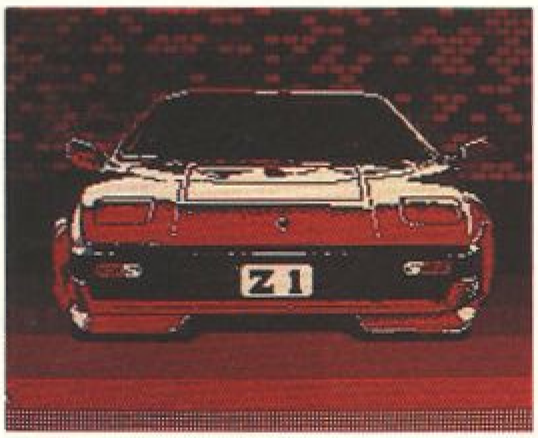
Cartoonists often design their characters using certain basic shapes (e.g. circles, ovals, and so on) that make the image easy to replicate and scale accurately time and time again. This approach obviously lends itself well to computerisation, so it's no surprise that we often get sent readers' impressions of well-known cartoon characters.



2000AD's superlative Judge Dredd perfectly pixelled by 17 year old Dean White of Sunderland on the Atari ST.

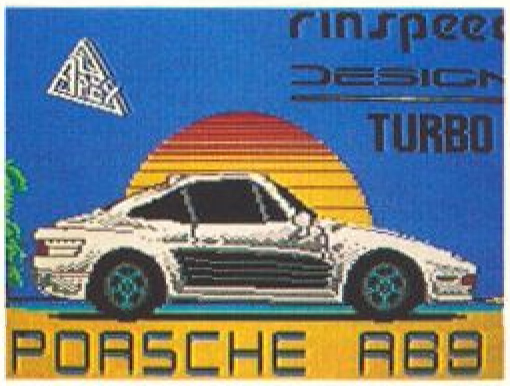


Howard the Duck - another Dean White reproduction on the ST.



Ian Young of Maidenhead artworked this one on an Amstrad CPC using the AMX mouse art program.

Apex Computer Productions of Chelmsford (a.k.a. the Rowland brothers) turned out this Porsche R69 freehand, using Vidcom 64 for the Commodore.



VRRROOOOM!

Cars seem to be one of the most popular subjects, and these examples only go to show that you don't need a state-of-the-art 16-bit machine to come up with a decent image...

SEND 'EM IN...

You too can achieve everlasting fame by having your sensational screens displayed in full, dazzling colour on these pages. If you want to make a splash in the world of computer art, this is the place to start. Who knows? Someone might spot your masterpiece and offer you work. At the very least, you get into print – and that looks good in any portfolio.

Send in your work on tape or disk to: Artworks, ACE, 4 Queen Street, BATH, BA1 1EJ. Screens should ideally be stored along with a display program to save time at this end, though we do have copies of most of the popular art packages. Don't forget to include some tips on how you drew the pictures so that others can benefit from your skills...

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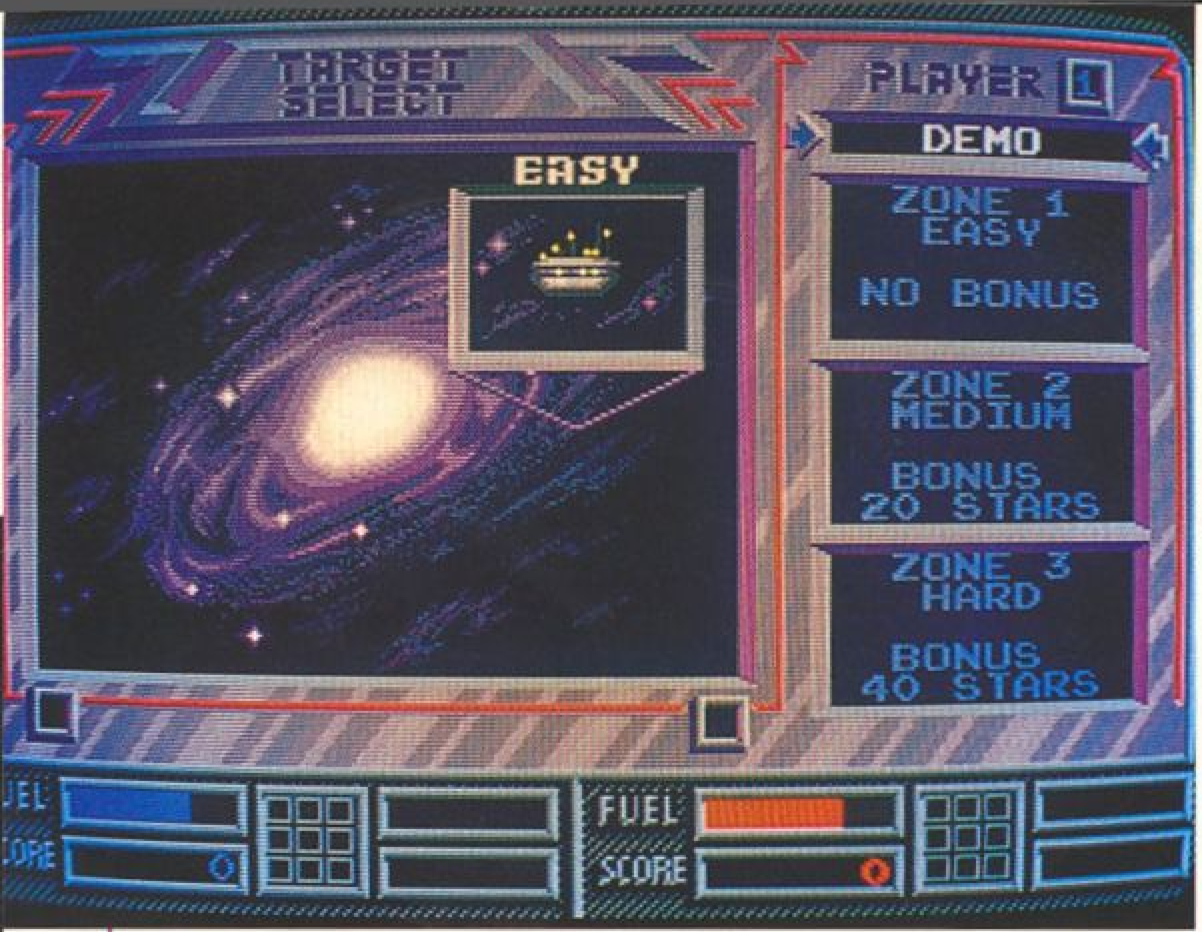


Going for the easy level might mean you stay alive longer, but you get no stars.

BOMB THE BASE!

VINDICATORS

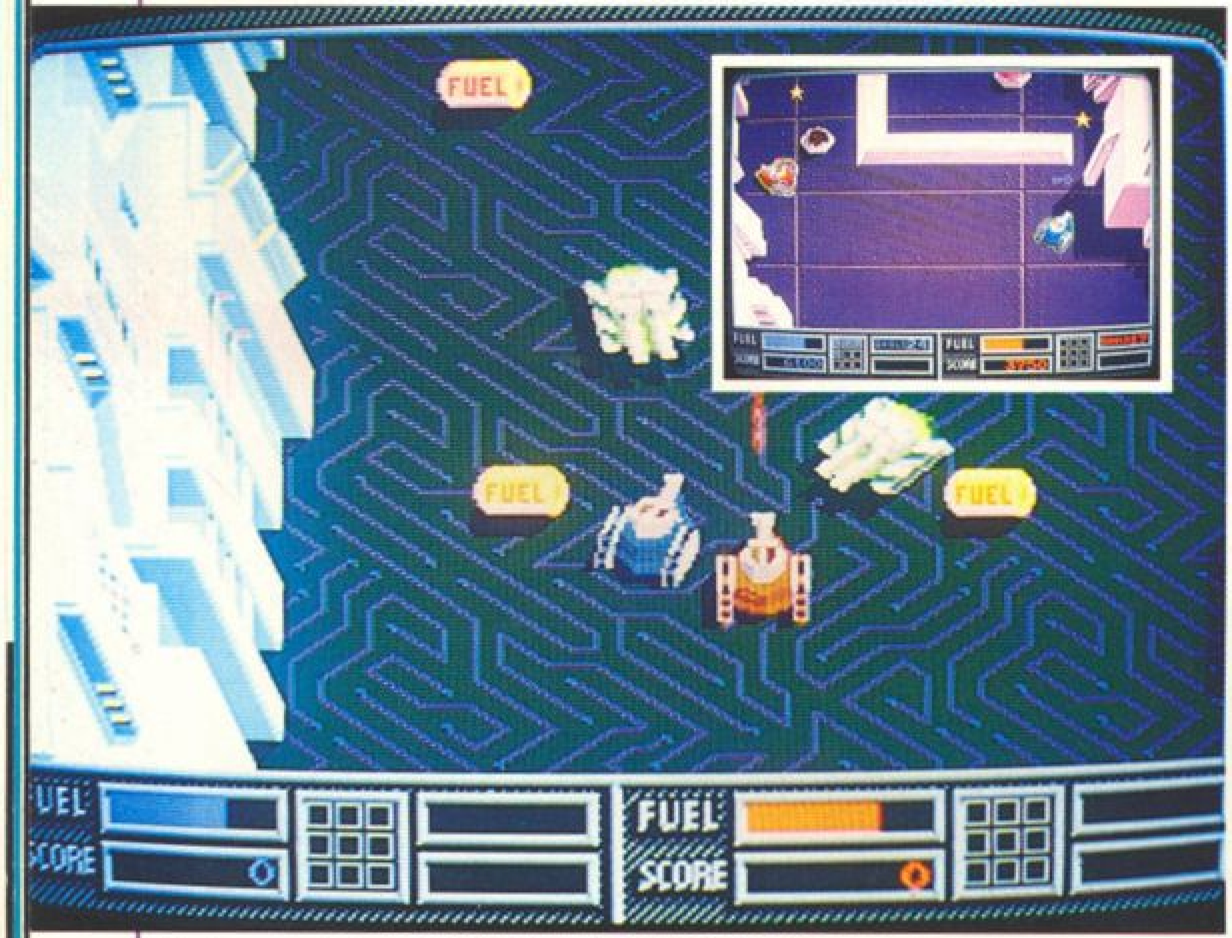
Atari 30p

Playing this one or two-player 3D tank game is no picnic until you get to grips with the controls, which consist of two joysticks per player. The player pulls and pushes the joysticks in order to move his/her on-screen tank around the multi-level stations searching for the command centre on each level – bomb enough command centres and you might just stop the invasion by the evil Tangent empire (but it's unlikely).

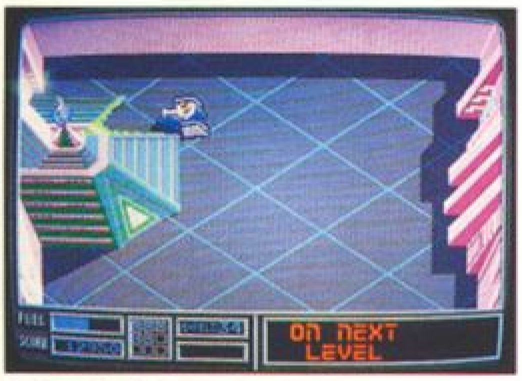
The levels are sub-divided into sectors and to exit from each you'll need to find at least one key to open the exit door. Practice with the controls is essential before you attempt any of this because the sectors are guarded by various tanks and gun emplacements designed to make your life difficult. Shooting the enemy tanks is tough to start with because your turret is fixed, but if you drive over the stars that can be found lying on the ground, you can buy yourself some juicy add-ons at the end of the sector. These include a gun rotating option which allows the player to rotate the turret independently of the body of the tank simply by pressing the uppermost of the two buttons that are on each joystick.

You can save your stars from each level until you can afford to buy something you think's really important, like armour or extra speed. It's just as important to collect fuel though – run out during a game and you lose your one and only life.

Vindicators is not your usual run-of-the-mill arcade game. Sure, it looks and sounds great, but the action is not as manic as you



Two players up against some tanks. Don't leave without collecting those fuel pods.
INSET The blue tank's found the key – now he has to find the exit.



And here it is. Red's gone through already.

BAS

Taito

30p

Who said there were only seven different types of novel? Perhaps there are only the same number of coin-op scenarios. This one surfaced a long, long time ago and was called *Pac-man*. Nowadays we've got 3D *Pac-man* games, but here's one that reverts to the old 2D maze idea with power pills to be collected and various nasties to be avoided. The '88 re-incarnation puts the player in a Sinclair C5-like motorbike with a front firing gun, and end of level guardians to defeat. It's great fun to play and a great nostalgia trip.

VULCAN VENTURE

Konami

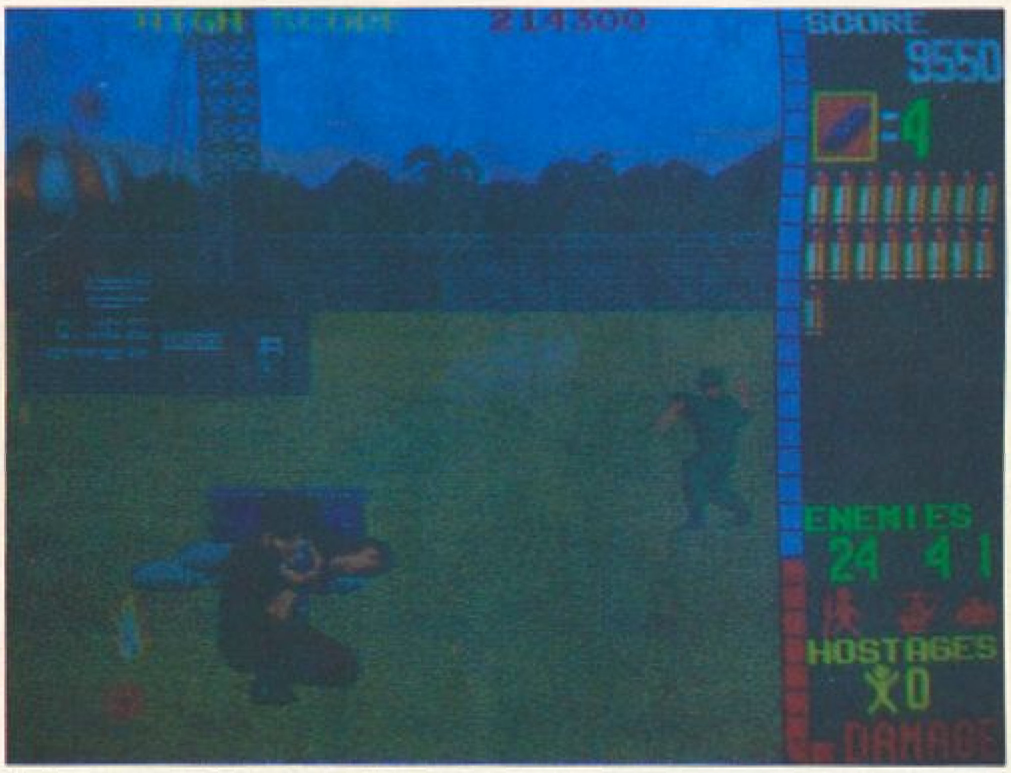
30p

No, it's got nothing to do with *Star Trek*. This continually sideways scrolling shoot-em-up has got a lot to do with *Salamander* and *Nemesis* though, and is just like these earlier Konami games with a few extra frills. Your routes through the game are far more complicated and the extra weapons even more devastating, but you're still going to have your work cut out and you'll have to be very sharp to defeat the end of level guardians.

might expect and you'll need to think a little as you trundle around the scenery. In this respect it's like a breath of fresh air. For mind-numbing action you're better off playing something like *Operation Wolf*.

OPERATION WOLF

We brought you news of this machine back in Issue 9, but unfortunately we were unable to show you any photographs of the game in action – until now.


HIGH SCORE 214300
SCORE
9550
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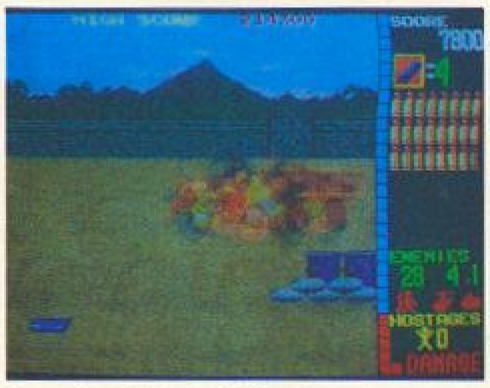
ENEMIES
24 4 1
HOSTAGES
X0
DAMAGE

Blowing up a personnel carrier with the rocket gun.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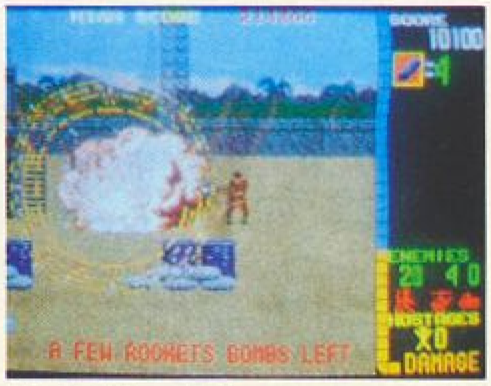
HOSTAGES
X0
DAMAGE

Destroying a fuel truck with rifle fire.


SCORE
10100
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ENEMIES
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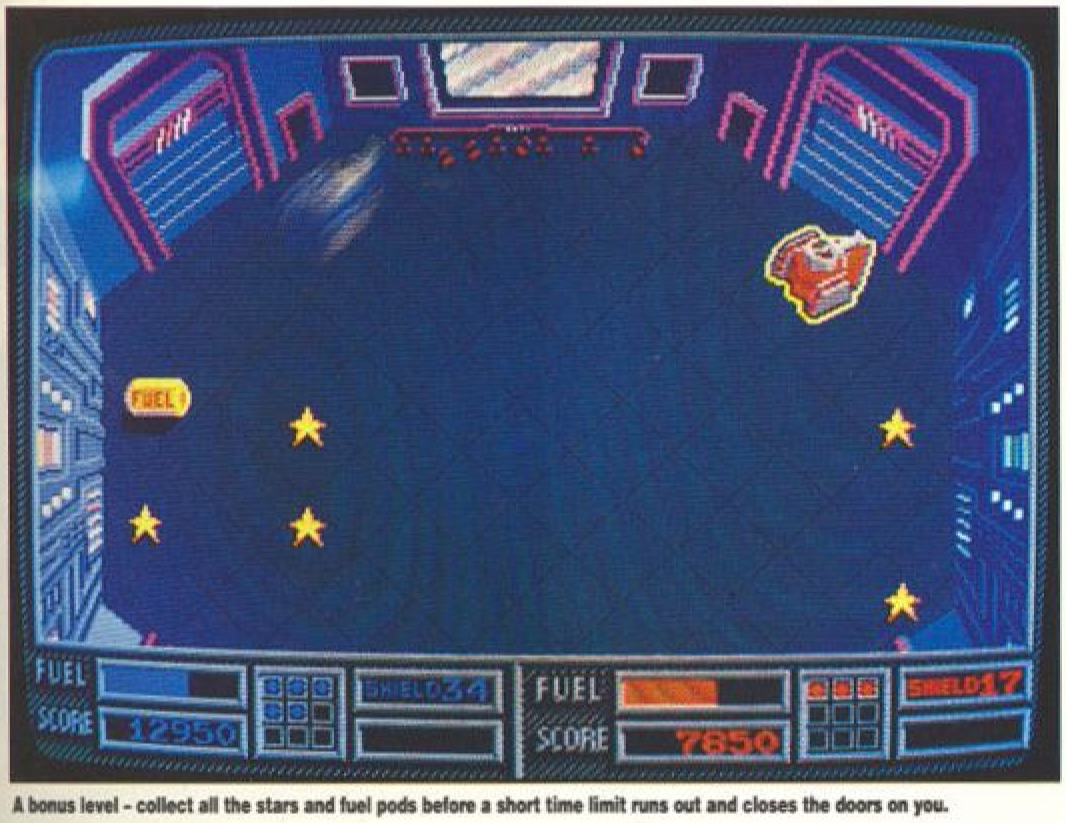
HOSTAGES
X0
A FEW ROCKETS BOMBS LEFT
DAMAGE

With 24 soldiers, 4 helicopters and a tank left to destroy, you've got your work cut out.


FUEL
FUEL
SHIELD34
SCORE 12950
FUEL
SHIELD17
SCORE 7850

A bonus level - collect all the stars and fuel pods before a short time limit runs out and closes the doors on you.

BAD DUDES VERSUS DRAGON NINJA

Data East

30p

Titles for arcade games get worse don't they? This simultaneous two-player beat-em-up plays rather better than the title suggests. Work your way through hordes of baddies in this left-right scroller, punching and kicking them into oblivion. If you're lucky you may be able to pick up an extra weapon like a sword or dagger to make your job easier. We hope to bring you a further report on this machine in the future.

ATARI ST

EXPLORE TH

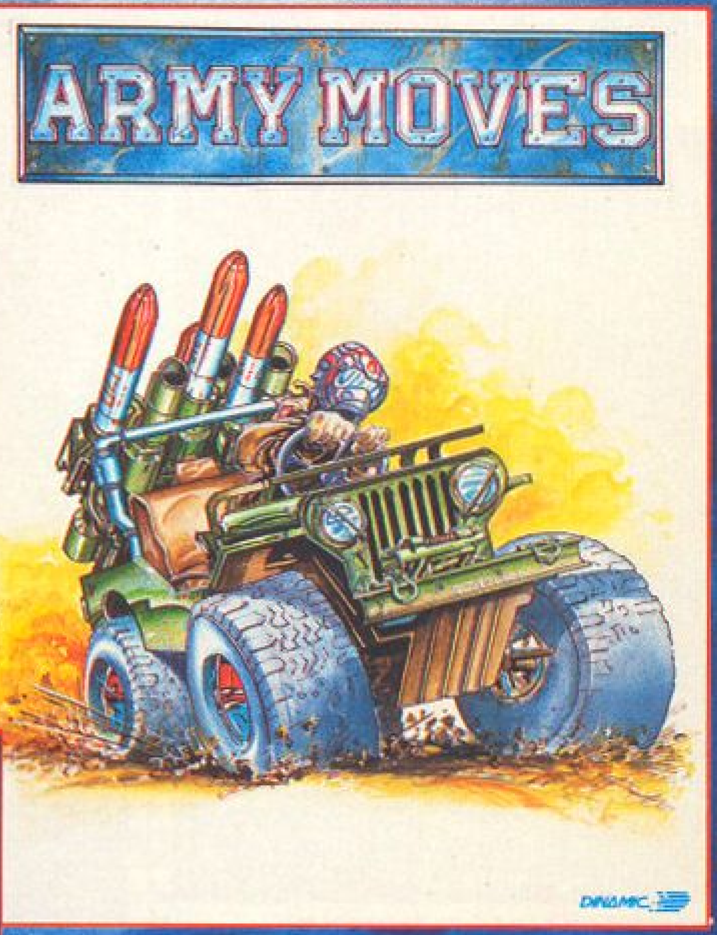
OF

Your plane has ditched on a mountainous plateau somewhere in deepest Tibet. You and your companions are alive but recovery from the impact is short-lived – a large shape is moving towards you, as it gets closer you rub your eyes in disbelief; a Dinosaur! – where are you...and when? Now you learn to survive in a world untouched by modern life – a world frozen in time. Stunning graphics and startling action in this thrilling innovative game.

WHERE TIME STOOD STILL

AND BE
HIGHEST
YOU

You are one of the Elite – a handpicked, crack trooper in battle against a formidable enemy. You'll need all your skill to take advantage of every situation, stamina to keep on going where others would fail and courage to face the ceaseless bombardment by enemy troops, helicopters and artillery and if you survive Army Moves you'll have some great tales to tell!



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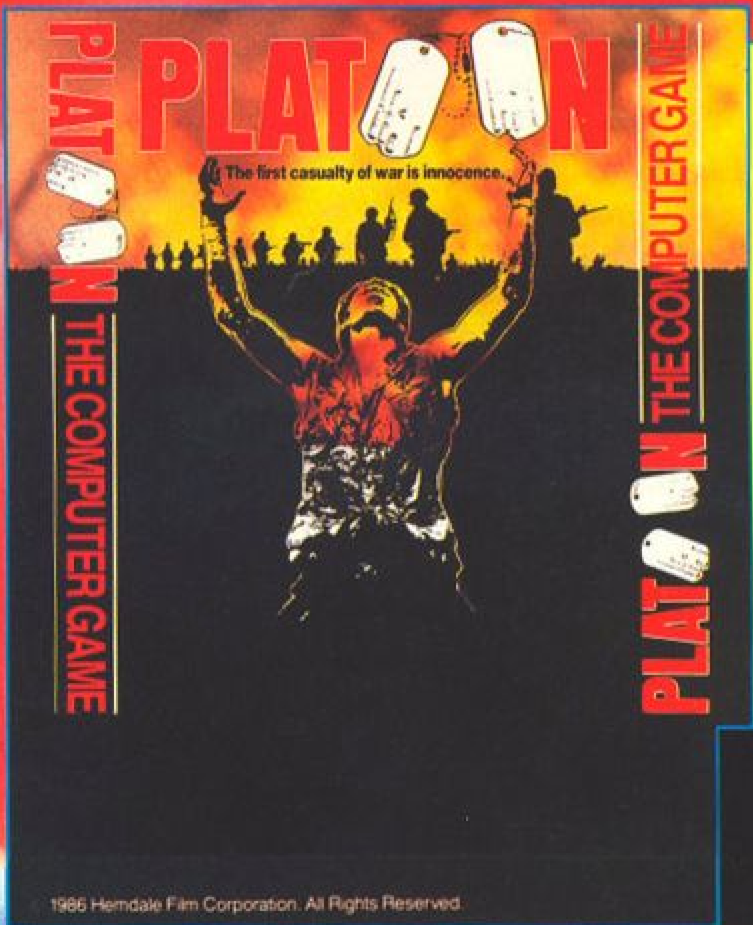
PLATOON
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PLATOON THE COMPUTER GAME
PLATOON THE COMPUTER GAME
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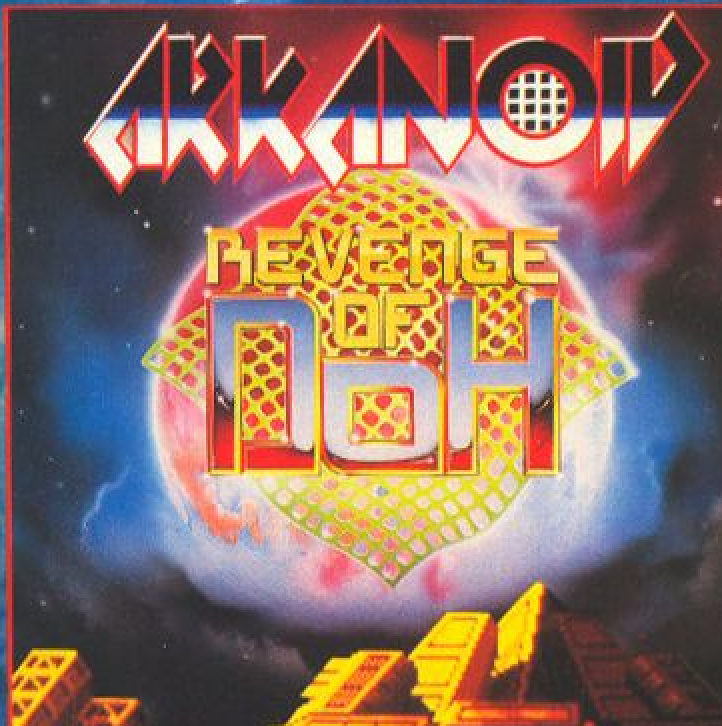
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TAITO
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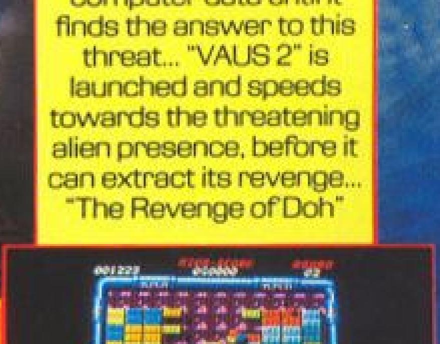

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FLARE

You read it first in last month's ACE: there's a brand new micro out there that could knock the whole computer entertainment world for six, and it's so unconventional it seems to defy logic. Designed from the outset as a mass-produced machine, it's already attracted interest from manufacturers as large as Amstrad and Atari - but will they take it up? And what will we see in the shops if they do? Andy Wilton investigates...

ARCHITECTURE

The Flare board, complete with its four copper-coloured custom chips.

The Flare One is not really one micro but two. The 8-bit side of the machine is shared by the Z80, the blitter, the video chip and the jack-of-all-trades 'glue' chip. The Z80 does the fine decision making here, while the blitter handles video operations and other large, repetitive memory-crunching tasks. They take turns: the Z80 sets the blitter running as desired, and the blitter then freezes the Z80 until its task (the 'blit') is done.

Unlike many Z80 machines, the 8-bit half of the Flare One runs at very nearly full speed despite the video chip's need to access screen memory. Where the Z80As in the Spectrum and CPC are both 'locked out' for quite significant portions of time, the Flare's Z80B – a chip that runs 50% faster in any case – and its blitter have things almost entirely to themselves. There are also favourable comparisons here with the Amiga, which can suffer significant losses of processing time because of video access, and the Archimedes which suffers very heavily indeed on this front.

That might be the whole machine as far as most people are concerned, but there's another side to the Flare One which could prove to be crucial. The machine has a separate 16-bit set-up consisting of its fourth custom chip – the digital signal processor, or DSP for short – and two tiny portions of very fast, very expensive static RAM.

The DSP's technically both sophisticated and complex – hardened techno-freaks can check out the box for details – but the big picture goes like this. The DSP can crunch numbers at a terrifying, Archimedes-beating speed, making it very handy for a number of tasks. It could handle all the 3D calculations for a vector- or solid-graphics game, put together some very complex sound waveforms, or clean the video 'noise' out of a frame-grabbed image. It could probably also turn its talents to big number-crunching problems like ray-tracing or fractal generation, both of these being natural applications for a machine with such a good graphics display.

The DSP is a great deal trickier to program than any other processor in the modern micro world, but it's got enormous potential. Not only is it tremendously fast, but because it's a separate unit it can leave the Z80 and blitter free to do other things while it takes care of the number-crunching. That's not just power – that's **useful** power!

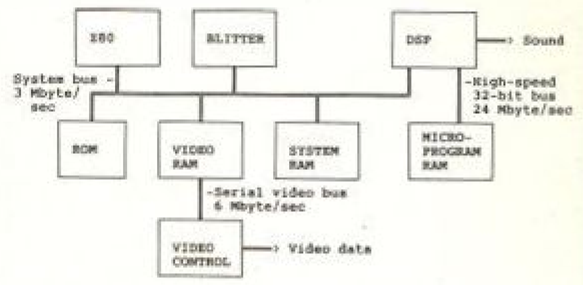

Z80
BLITTER
DSP
Sound
System bus - 3 Mbyte/ sec
-High-speed 32-bit bus 24 Mbyte/sec
ROM
VIDEO RAM
SYSTEM RAM
MICRO-PROGRAM RAM
-Serial video bus 6 Mbyte/sec
VIDEO CONTROL
Video data

Figure One - System Architecture

The Flare One's Architecture

The Flare One is an 8-bit micro. Yes, it can move sprites and block graphics faster than an ST, and in 256 colours at that. True, it can draw lines three times faster than an Amiga. Sure enough, it can handle the maths of 3D structures faster even than the ultra-speedy Archimedes can. But it is an 8-bit micro, honest. Its central processor is a Z80 – decidedly 8-bit, as any Spectrum or CPC owner will tell you – and though it's got a blitter, that's 8-bit too. Now everyone knows that 8-bit micros are old, slow and generally things of the past, so how come this one knocks spots off the 16-bit competition?

The answer lies in the Cambridge suburb of Cherry Hinton where Martin Brennan, Ben Cheese and John Mathieson – aka Flare Technology – have been putting their hardware theories into practice. The technical side of their success involves an unconventional design and some very powerful custom silicon (see boxes and overleaf for details) but this all stems from something very simple: a belief in computers as pieces of leisure equipment. Atari and Commodore want to sell their glossy 16-bitters to businessmen, Acorn see the Archimedes fitting in best in the classroom, but Flare just want to entertain people. By focussing on games, graphics and music performance to the exclusion of almost everything else, they've managed to stand accepted wisdom on its head.

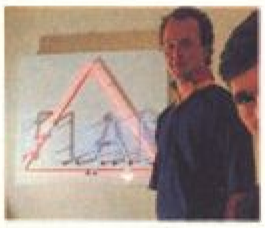
Something like five man-years of effort have gone into the Flare One board, and it shows. The thing is complex. That's not to say that the board's crowded with fiddly little bits, but rather that the Z80 and four whacking great custom chips all have to mesh together – and two of those four are processors in their own right! During the board's development time, Flare have funded the work and kept themselves alive by taking on hardware projects from other businesses, notably Amstrad themselves. What with this work and considerable experience at Sinclair

The Flare team : will their machine change the face of computer entertainment?

Research before setting up on their own, the trio are old hands at designing for mass production.

The problem now is to actually get the machine manufactured, and that's well beyond Flare's resources. While several companies have shown interest, the front-runner in the rumour stakes is Amstrad. While the boys from Brentwood could certainly fit the Flare One into their product line – probably by dropping the elderly Spectrum to make room – such rumours aren't always worth a great deal: a companion tale doing the rounds tells how Amstrad are sueing Flare over the machine, a claim both sides strongly deny.

But will Amstrad want to market such an unconventional machine? As a modern micro, the Flare One's specifications look all wrong – and that's leaving the 8-bit architecture out of things for the moment. The Flare One can't comfortably manage an 80-column text screen, so word processing and other serious uses are just about out of the question. Its screen takes up a colossal 64K of memory: only the Archimedes and top-end PCs offer more for under £1000. It has no screen palette as such: to change one of the screen colours, you need to change all the pixels drawn in that colour.



The above points aren't problems at all, but they certainly show what an unusual approach Flare have taken. The idea behind the Flare One project was to produce not an all-round micro but an entertainment machine. The design discards many assumptions made by manufacturers in recent years, and in its philosophy almost marks a throwback to consoles. When (if) it reaches the shops, the entry-level Flare One will quite possibly load programs from tape, and may not even have a keyboard. This is not as crazy as it sounds: tapes are a very cheap storage medium, especially for games, and with modern pointer-style operating systems a keyboard may simply be unnecessary. Besides, Flare have a price to aim for. They want to see the basic machine selling for under £200. ●

SPECIFICATIONS

MACHINE	TYPICAL RES	COLOURS (ON-SCREEN)	COLOURS TOTAL	PRICE
ATARI ST	320 x 200	16	512	£399
AMIGA	320 x 200	32	4096	£399
ARCHIMEDES	320 x 256	256	4096	£800
FLARE	256 x 256	256	256	£200?

GOOD FOR GAMES?

If the Flare One does make it onto the market, one games house you can expect to see supporting it is Realtime. 'A byte-per-pixel screen is just what you want for 3D work' said Realtime's Ian Oliver. 'It makes things so easy. We took a look at the new VGA graphics boards for the IBM PC because that's got a byte-per-pixel mode, but it wasn't any use: you could only have one screen, and you need two for games programming. Otherwise there'd be a VGA version of Carrier Command.'

Zarch author David Braben is a fan of byte-per-pixel screen layouts – 'they're much easier to program for than bitplanes' – but the DSP's calculation speed also caught his attention. 'Three thousand vertices every vsynch (1 vsynch = 1/50th of a second) is quite impressive. You'd be very hard put to get that kind of performance out of an Archimedes – but then that's not really the bottleneck. The big tasks in solid 3D are scanning databases of shapes and putting polygons on screen.'

SCREEN STORY

The extraordinary graphics power of the Flare One stems from a whole series of related design features, but central to the whole thing is the layout of the screen in memory.

The 128K of video RAM is split into two 64K screen areas. The normal arrangement has the video chip displaying one of these (the 'front screen') while the blitter updates the other ('the back screen'). Once the back screen has been updated the two are switched over and the updating process starts again, continually looping so long as animation is required.

The machine has two screen modes, either 256 x 256 pixels in up to 256 colours (low res) or 512 x 256 pixels in up to 16 colours (high res). In low res, each byte of screen memory gives the colour of one pixel. In high res things are a bit more complicated, with each half (or 'nybble') of a screen byte representing one pixel. The normal games mode would be low res, because its simple byte per pixel' screen layout makes graphic manipulation very easy indeed.

In low res, the byte values represent the physical colours of pixels, not the palette colours. That is, you decide what colour a shape is going to be when you actually draw it. This isn't a statement of the obvious: most modern micros use palette colours, which you can change at any time. For example: on an Amiga you set colour A to be green, and draw a line in colour A. This simply gives you a green line. If you now set colour A to be red, the line you drew instantly turns red – as does anything else you've drawn in colour A.

The Flare One doesn't have a palette as such. If you draw a line in green, the only way to turn it red is to completely redraw it. In practice it's very easy to simulate palette changes using the blitter, but if you're used to the Amiga/ST way of doing things it'll strike you as odd that you should have to. Mind you, if you're used to the Amiga/ST way of doing things you'll find the Flare One pretty odd right the way through.

BITPLANES, OR RATHER THE LACK OF THEM

The byte-per-pixel layout of the Flare's low-res screen is in total contrast to the bitplane system used by the ST and Amiga, and gives the machine a decisive edge over them.

A typical ST or Amiga game screen is made up of four separate 'bitplanes'. Each byte of a bitplane corresponds to a row of eight pixels on screen, giving a small amount of information about each of them. The video chip has to combine this information with similar data from bytes in the other three bitplanes to find out what colour each of those pixels actually is.

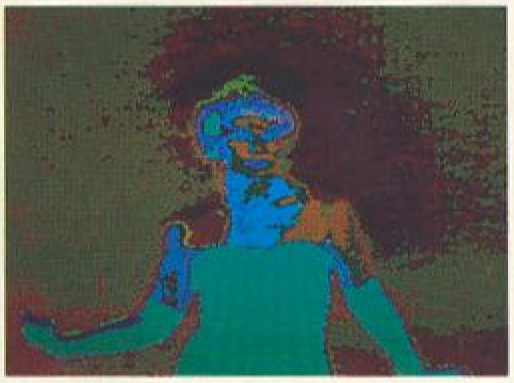
In other words, if you want to set the colour of one pixel you'll have to alter four different bytes of screen memory, one in each of the bitplanes. What's more you'll have to make the alterations carefully, so as not to disturb the extra information in each byte and so accidentally change the colour of neighbouring pixels in the same row of eight.

This careful alteration is a fiddly process rather like the old-fashioned 'travelling matte' technique used in movie special effects. In practice you've got to do three separate operations on each byte: you take the information already in the byte, combine it with a 'mask' byte to clear out the data you want to alter, combine the result of that with a 'detail' byte to fill the gap made by the mask, and then write the finished product back into memory.

Got all that? That's three read operations and one write operation for each byte, and you've got to alter four bytes in all. A decent games programmer can cut out the reads for the 'mask' and 'detail' bytes easily enough, but it still takes eight memory accesses and another eight internal processor operations to change one pixel. The Flare One can do the whole thing with one single write operation, no reads and no internal messing around. No wonder it's so quick!

The bitplane layout handles a lot better when you're altering several adjacent pixels in one go, during software sprite operations for example, but the

The blitter moves a chunk of frame-grabbed image round the screen – but it's too fast to photograph!



Even without a palette in the conventional sense, colour changes like this are easy and quick thanks to the blitter.

BENCHMARKS

MACHINE	CLEAR	VECTOR LINE	FILL LINE	SPRITE
ATARI ST	160	2.3	50	22
AMIGA	128	4	40	57
ARCHIMEDES	560	32	260	86
FLARE	60	60	60	30

The four sets of performance figures, CLEAR, VECTOR LINE, FILL LINE and SPRITE are rough estimates of the four machines' raw screen-hitting power, measured in thousands of pixels per frame, (1 frame =1/50th of a second) – so the higher the number, the beefier the machine. CLEAR is brute-force filling of a large area, an important ability for 3D games which need to clear a screen area before drawing shapes onto it. VECTOR LINE is line-drawing between arbitrary points as used in wire-frame graphics games. FILL LINE involves drawing horizontal lines of the kind used to fill a large polygon in a solid 3D game, working on a line length of about 80 pixels. SPRITE involves putting an arbitrary shape on screen, but without storing the background first. Some of the figures are based on manufacturer's estimates we haven't been able to verify. Also NB that Amiga and more particularly Archimedes figures could suffer badly from screen chip accesses. (Many Amiga games only use 16 colours at once, giving them a performance very similar to their ST equivalents.)

Any chip that can handle a 3000-vertex 3D world, rotated or translated 50 times a second, can reasonably claim to be powerful. Well, that's what Flare reckon the DSP (digital signal processor) chip in their micro can manage. So how come it's so fast?

It's not just a question of brute force: the DSP runs at 6MHz – that is, it can perform 6 million 'cycles' or individual operations per second – whereas the ST's 68000 runs at 8MHz. Despite this the DSP is far and away the faster of the two chips, thanks to advances made in chip design since the 68000's day.

The DSP is a reduced instruction set chip (RISC for short). This means that, like the Acorn ARM processor used in the Archimedes, it can only perform a small number of different instructions. Jobs that a complex chip like the 68000 can do with one instruction might take the DSP two or three – but those two or three still take less time than the 68000's one, usually much

Flare's no slouch at these either as the Benchmarks show. Bear in mind that a Flare One pixel can be any one of 256 colours as opposed to 16 for the ST or 32 for the Amiga (disregarding impractical modes), and it's performance looks like a remarkable testimonial for the byte-per-pixel way of doing things.

THAT BLITTER

The blitter's speed at conventional operations may be impressive, but that isn't all it can do. If the screen's set up properly, the handy little chip can also perform collision detection and depth-sorting tasks automatically.

This makes sprite-based 2D games very easy to write, and could also come in handy for displays with overlapping windows. These facilities work by storing depth or sprite/background indicators in each pixel's screen memory byte, and this necessarily cuts down the range of colours available. You'll still always have 64 colours available in low res however, so this is unlikely to cause games authors a problem.

Another technique that uses surplus colour information is mode-mixing. Many machines allow you to split the screen into areas of different modes, but Flare have really pushed things to the limit. You can set each byte of the Flare One's screen memory to be either one low-res or two high-res pixels, so that pinsharp areas on a multi-colour background (or vice versa) can be just about any shape you want. This is very useful for text messages, instrument panels and ultra-detailed sprites. What's more, you can use the high/low-res indicator as a depth indicator too, neatly protecting text boxes from graphics operations or whatever.

CUSTOM SILICON

The Flare One's custom chips are remarkable not only because they're so ambitious – made-to-measure RISC processors are rare things indeed – but because of the shoestring budget they were produced on. Until recently, prototype custom chips have been produced by photographic methods at an initial cost of around £20,000 per design. New techniques meant that Cambridge firm Qudos could knock them out at a tenth of the price by using an 'E-beam' – an electron gun, that is – to cut the pattern directly into the silicon.

Flare's creative use of custom silicon caught the attention of the Department of Trade and Industry, who've made a 16-minute film about the company. The DTI are trying to encourage more manufacturers to use custom silicon as a way of increasing efficiency, and are keen on the Flare One mostly because it's such a clear example, both financially and literally, of the technique's advantages.

It's official: the Flare graphic demo really is impressive!

NEXT BIG THING

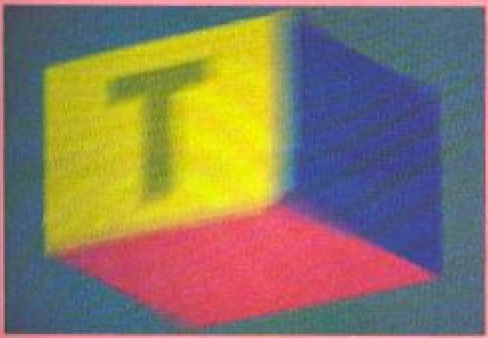
If the Flare One isn't the success it's shaping up to be, it wouldn't be the first time a potentially earth-shattering micro fell by the wayside. The history of microcomputing is littered with machines that were well put together, great value for money or years ahead of their time but still never quite made it in – or even to – the marketplace.

Computer fans with longish memories may remember the Memotech MTX series, a set of sturdy Z80-based colour computers well liked by programmers but sadly unsupported on the games side of things. Belated attempts to give the machines Spectrum compatibility failed to save them from commercial failure and consignment to their owner's attics.

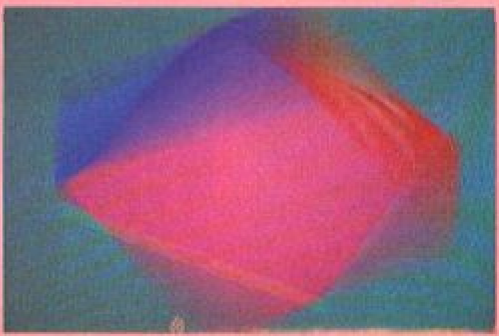
Another would-be blockbuster micro went through such unlikely names as Samurai, DPC (rumoured to stand for Damp-Proof Course) and Elan before eventually being launched under the name of its creators Enterprise. Generally known as the Flan, the machine had a built-in joystick and almost no games software; terrific graphics and only a poor little Z80 to drive them; and a fantastically comprehensive Basic that ran at a snail's pace. The console design's pleasingly rounded edges made the Flan look like an artist's palette without a hole in it, or possibly a chocolate micro that had been left in the sun too long. There must be a warehouse full of the things somewhere.

Possibly the greatest of the failed contenders, the QL, came from Sinclair Research's very own Uncle Clive. Its central processor was the 68008, the runt of the 68000 litter, which put the QL at least a year ahead of its time (1984). While the press haggled over whether the 68008 was a 32-bit chip as Sinclair claimed, or in fact just an 8-bit chip with ideas above its station – history favours the latter point of view – pundits tended to ignore the machine's real problem, namely that the QL's microdrive system was wholly inadequate for serious use and too expensive for mass game-distribution. Needless to say, the QL got precious little games support despite being the most powerful home machine of its day. ●

POWER CHIP



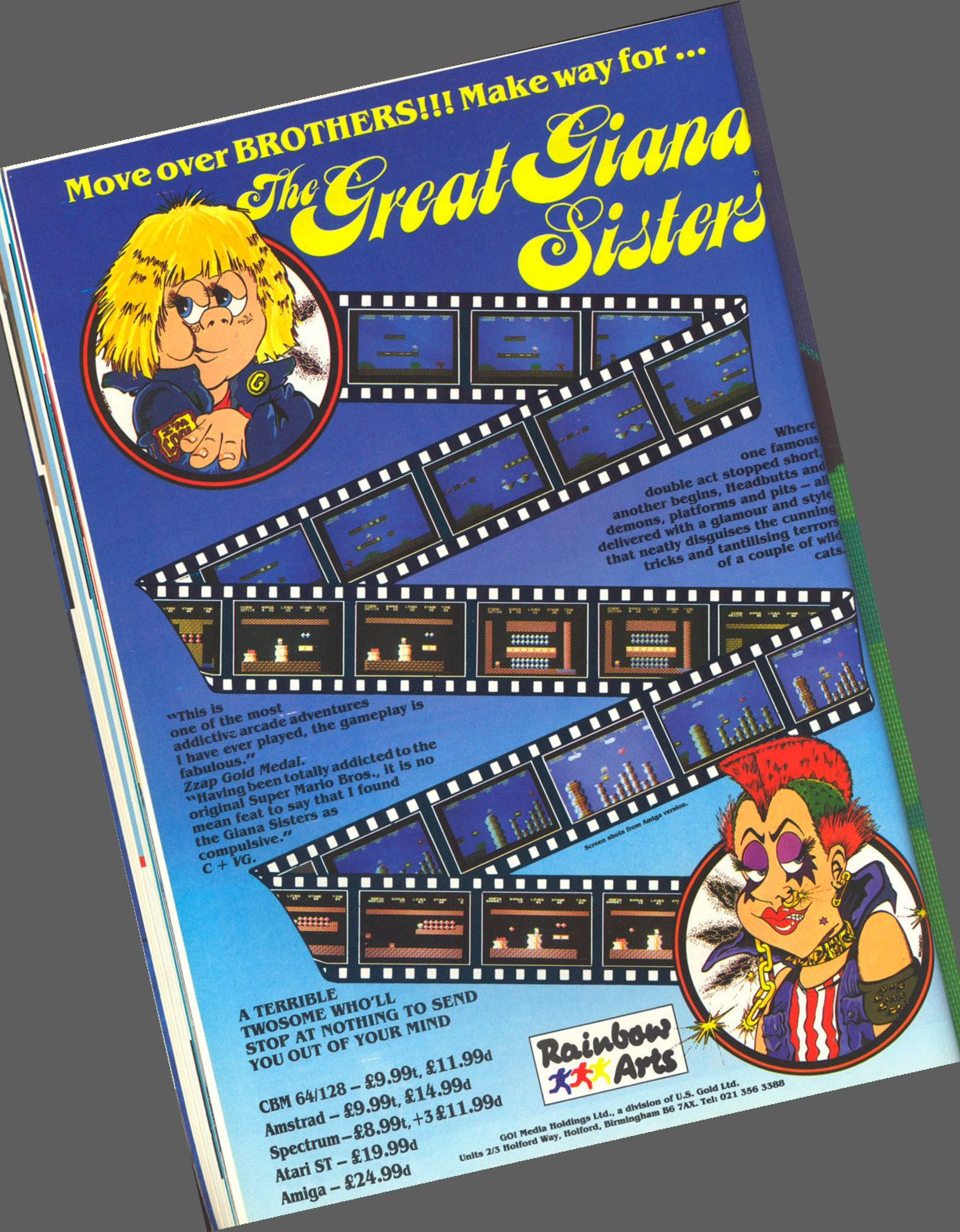
Even at its lowest spin rate, this cube's going too fast for the camera to catch. The speed is down to the blitter, but the geometrical calculations are all the DSP's work.



A cube is easy – there are only 8 vertices to deal with – but Flare reckon the DSP can handle 3000 vertices at the same speed. Can your micro's sound chip do that?

less. The typical 68000 instruction takes 4, 8 or 12 cycles while almost all DSP instructions execute in a single cycle.

Even where the DSP has to break its one-cycle one-instruction stride, there's very little loss of power. Multiplication is always a slow business as far as chips are concerned, and the DSP's multiply takes up a whacking 7 cycles (compared to a typical 50 or 60 cycles on a 68000) but that's nowhere near as bad as it sounds. The multiplication side of the DSP is completely separate from the rest of its innards, so your DSP program can carry on with other tasks until the result is ready. Clever stuff!



Move over BROTHERS!!! Make way for ...

The Great Giana Sisters

Where one famous double act stopped short, another begins. Headbutts and demons, platforms and pits – all delivered with a glamour and style that neatly disguises the cunning tricks and tantilising terrors of a couple of wild cats.

"This is one of the most addictive arcade adventures I have ever played, the gameplay is fabulous."
Zzap Gold Medal.

"Having been totally addicted to the original Super Mario Bros., it is no mean feat to say that I found the Giana Sisters as compulsive."
C + VG.

Screen shots from Amiga version.

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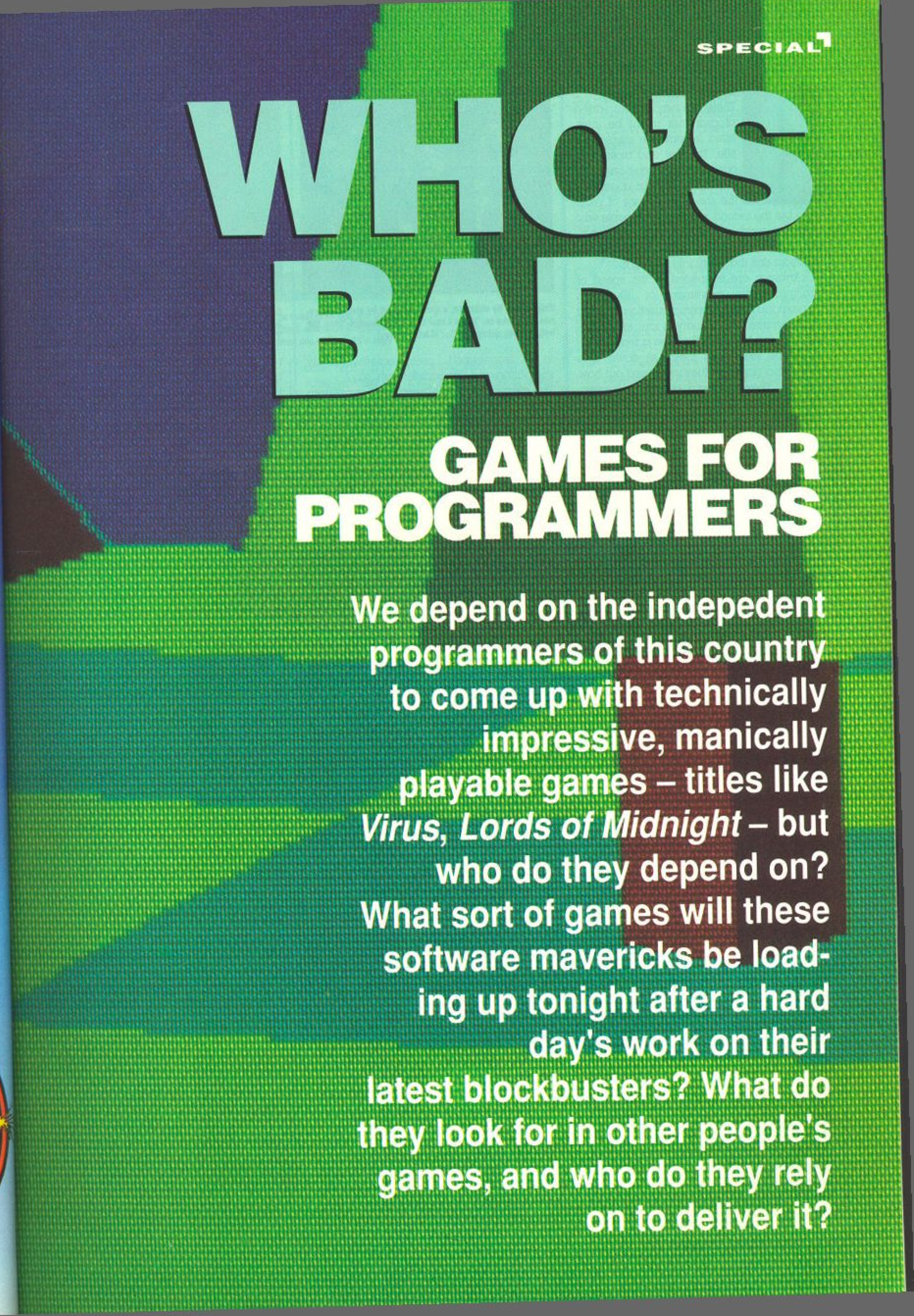


WHO'S BAD!?

GAMES FOR PROGRAMMERS

We depend on the indepedent programmers of this country to come up with technically impressive, manically playable games – titles like *Virus, Lords of Midnight* – but who do they depend on? What sort of games will these software mavericks be loading up tonight after a hard day's work on their latest blockbusters? What do they look for in other people's games, and who do they rely on to deliver it?

GETTING ANALYTICAL

There are two reasons why a programmer might be interested in someone else's latest title. The first and most obvious is the same one anybody has for looking at a game – the sheer enjoyment of playing – but the second is peculiar to people who work with machine code for a living. It's **analysis**, the practice of judging a game by the technical skill that went into writing it.

Analysts are interested in the speed of scrolling, sprite movement or 3D shape manipulation. Their burning question is 'Could I have written that?'. Analysts love to reverse-engineer things: when they see a really original game technique, they'll sit down with pencil and paper till they've figured out how it works. They are hard people to impress. Games usually manage this tricky feat by doing something your micro isn't suited to – sideways scrolling on the ST or Spectrum, or solid 3D on a C64 perhaps – but the occasional biggie like *Knight Lore* or *Carrier Command* will knock everyone's socks off by the sheer scale of its ambition.

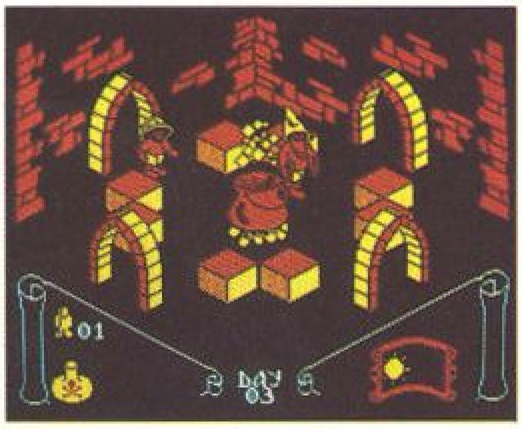
If a surprisingly large number of programmers are analysts, there are some good reasons for this. There's probably an element of competition in there somewhere – programmers working alone can only judge their own skill at the job by looking at other people's latest games – and also a natural professional curiosity, but there's another side to it as well. Most programmers are either reluctant to spend their spare time playing computer games, or simply don't have any spare time in the first place. If you only look at a game for five or ten minutes you won't see much of its gameplay – unless it's very simple fare indeed, that is – but you'll get a good idea of the technical skill involved in writing it. In other words, analysis may well be all that a lot of programmers have time for.

JON RITMAN

Since his games debut with the improbably named *Namtir Raiders*, Jon has written some pretty hot stuff: he programmed *Matchday*, *Batman*, *Head over Heels* and *Matchday II* for Ocean. Jon's currently working on a hush-hush coin-op game for RARE, the arcade and Nintendo cartridge company run by Ultimate founders Tim and Chris Stamper. The game will run on RARE's own dedicated coin-op hardware – The actual board uses a jazzed up Z80: it's a Hitachi model which has built-in multiply instructions and stuff.' – but Jon plans to convert it down to the home micros if at all possible.

'I don't really play a lot of games. I don't like violent shoot-em-ups, and they seem to account for 90% of the stuff released these days. I read most of the magazines pretty thoroughly for the reviews, but I won't buy things unless they look original. My games collection runs to 20 titles or so, but most of them are pretty old.'

'*The Sentinel* (Geoff Crammond) was a lovely idea, but I didn't like the way it was so easy to get disorientated. I prefer something really straightforward like *Boulderdash*, say.'



Knight Lore by Ultimate, a game admired by almost everyone we spoke to. 'When I saw that I just thought "How the hell are they doing that?"...' (Chris Hinsley)

'I've played all of Realtime's stuff apart from *Carrier Command* – it sounds great but I haven't got an ST, so I've not seen it yet. I think Realtime are very, very competent people.'

'The graphic techniques for generating the landscape in *Lords of Midnight* (Mike Singleton), those were very clever indeed. I never really got to grips with the game itself though. It's strategy really, and that kind of thing takes a lot of time to get into. I prefer games which keep things relatively simple: I want it to be obvious what you've got to do.'

'I first saw *Knight Lore* (Ultimate) the day I handed the finished *Matchday* over, and I just went 'Wow! I really want to write games like that.' I went away with my head full of ideas for *Knight Lore* style games.'

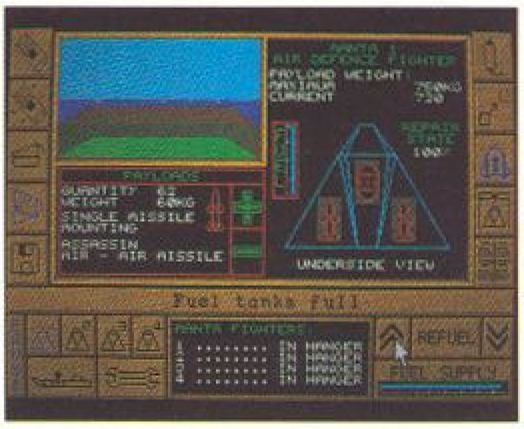
DAVID BRABEN

Author (with Ian Bell) of the monstrously successful *Elite*, David's more recent claim to fame was the stunning Archimedes game *Zarch* and its ST incarnation *Virus* (see Screen Test for review). He's currently working on Amiga *Virus*, but once that's out of the way it'll be back to the mammoth task of writing an *Elite* sequel: don't expect to see that one this year!

'I try not to play computer games too much. I'm in front of a computer screen programming all day, so in my spare time I like to get away from it, do things out of doors or whatever. It's not that I don't enjoy games, and it's certainly not that being a programmer spoils them for me: it can be very interesting seeing whether people have done things properly or not. Like *Carrier Command* for instance: that does look very good. Unfortunately it also looks like you'd need to play it a lot to do it justice – and as I say, that's something I try not to do.

STEVE BAK

Steve has firmly established himself in the ST and Amiga world with games like *Goldrunner*, *Karate Kid II* and *Return to Genesis*. He's now converting his latest hit, *Leatherneck*, to run on EML's ST-based coin-op system, before he starts on the ST conversion of Logotron's forthcoming Amiga title *Star Ray*. Future projects include an Amiga arcade adventure for Microdeal based on the cult horror/comedy video *Fright Night*.



Carrier Command, by Realtime – everyone's seen it (except Jon Ritman!) but no-one's had chance to play it properly. 'I've only had time for a quick fly round...' (Mike Singleton)

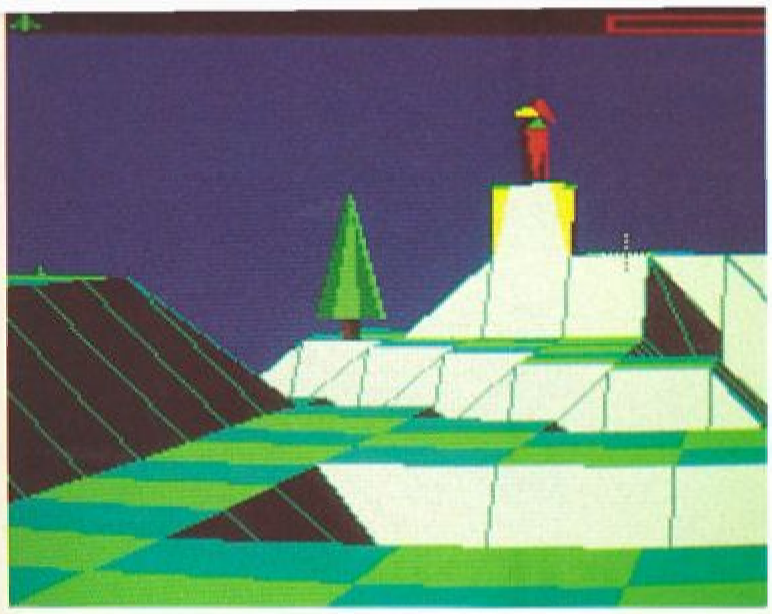
'I play mainly arcade games: I've never really seen a home computer game to measure up to the arcades. I really got into the coin-op of *Gryzor* a while back, and actually had a machine at home. Once I managed to completely finish it without losing a life! The Ocean versions were very disappointing in comparison, but then what can you expect? The hardware just isn't in the same league.'

'Of those home games that I have enjoyed, I'd say that *Boulderdash* was my favourite. *The Sentinel* was very good too: I was playtesting the Amiga version recently, but I ended up playing it far more than I needed too, and got to somewhere around screen 7000. When I play a home game, it's just the gameplay that I'm interested in. I couldn't care less about the technical skill that went into it so long as the gameplay's right. I still play *Zolyx* on the C64 and that's technically awful, but the game itself is good.'

'When I wrote *Goldrunner*, *Karate Kid II* and *Return to Genesis*, I did them all as challenges really. People said that it couldn't be done – the fast scrolling in *Goldrunner*, the large sprites in *KK II* or the horizontal scrolling in *Return to Genesis* – so I set out to prove them wrong. I think gameplay is more important though, and I'm concentrating on that from now on. *Leatherneck* was a simple vertical scroller and I finished the technical side of it about six weeks after the PCW show last year, but it's only just been released. I needed the time in between to get the game maps and difficulty tuning the way I wanted them.'

STEVE TURNER

Steve's notched up a fair old number of software hits over the years – *Magnetron* and *Ranarama* are two of the more recent goodies we owe to his fine sense of gameplay – and he's not resting on his laurels either. Right now he's busy converting Andrew Braybrook's unreleased



The Sentinel, by Geoff Crammond. Steve Bak did this Amiga conversion and got hooked while he was playtesting it, Jon Ritman found it disorientating, and Mike Singleton? He loved it! 'It was a beautiful piece of inspiration...I actually went out and bought a copy'

C64 title *Intensify* to the Spectrum, both versions being due out some time in the Autumn.

'I don't often find the time to play games – not lately at any rate – but I do enjoy them. I usually go for good old-fashioned smash-em-ups. I like the feeling of power you get from them, especially progressive shoot-em-ups like *Side Arms* or that sort of thing. In the arcades my favourite's probably still *Star Wars*. I love the impression of speed you get in that.'

'I don't really think about the technical side of games I'm playing. If there are sluggish joystick responses or something like that, then I'll notice it: otherwise, I won't. Good programming doesn't normally stand out.'

'I like games I can get into quickly. For one thing, they're usually all I have time for. I don't normally go by author – one game can be so different from another – but I do look forward to seeing Raff Cecco's stuff.

RAFF CECCO

Raff first made a name for himself with the Mikrogen title *Equinox*, but he's better known for Hewson games like *Exolon* and *Cybernoid*. A dedicated Z80 fan, he's currently working on a Spectrum scroller called *Storm Lord*. It's early days yet, but Hewson hope to have this on the streets in time for Xmas.

'I don't really enjoy home games that much: I'd sooner go into the arcades and play something like *Operation Wolf* or *R-Type*. What impresses me on a micro game is technical achievement. Like the sideways scrolling on the Spectrum version of *Zynaps* (Dominic Robson): that was technically excellent. Getting scrolling like that without hardware support is very difficult indeed.'

CHRIS HINSLEY

Chris has been writing games since the dawn of the industry – his first title was a *Centipede* clone for the ZX81 – and has a list of programming credits as long as your arm. He's best known on the 8-bit machines for arcade adventures like *Everyone's a Wally* and *Pyjamarama*, but now he's turned his attention to the ST and Amiga. His work here includes ST *Xevious*, *Advanced Art Studio* and the soon-to-be-released *Verminator*. Chris is currently working on *Cronos*, a scrolling game for the ST and Amiga which will probably be published by Hewson later this year.

'I don't normally buy home games, because I can't really find any lasting interest in them. After ten minutes of play I start picking holes in a game, finding fault with it technically. I was quite impressed by the scrolling in *Goldrunner* (Steve Bak) when it came out – it didn't have much to it as a game though, just flying around and blasting – but nothing's really amazed me since *Knight Lore*. When I saw that I just thought 'How the hell are they doing that?', and that's the only game that ever did that.'

'By and large, I'd rather go and play in the arcades. The hardware's just so much better there. Take something like *R-Type*: it was just a straightforward scrolling game really, but boy did it have some addictive qualities.'

JOHN PHILLIPS

John's Hewson debut, *Impossaball*, brought a brand new perspective to bouncing ball games and proved to be tremendously compulsive. He followed this up with the ACE-rated *Nebulus* which combined well-judged gameplay with remarkable inventiveness and technical skill. He's now almost finished the ST version of *Road Star*, a driving and shooting game for Hewson which is due out in the Autumn.

'I like Paul Woakes' stuff a lot – *Mercenary*, *Backlash* and so on – and a few of the old Ultimate games as well. When I have a go on someone else's game I don't look at it technically: I just play it.'

'I do like games to be complete within themselves, but a lot of the stuff you see these days seems to have something missing. Paul Woakes' stuff isn't like that: even where his games are fairly abstract, they still fit together well.'

REALTIME

Realtime produced *3D Starstrike*, *3D Starstrike II* and the 8-bit conversions of *Starglider*, before bursting into 16-bit prominence with the oh-so-impressive *Carrier Command*. They're now finishing off 8-bit, PC and Amiga versions of *CC*. Their next project for Telecomsoft will again use solid 3D – a field that Realtime pioneered and BT are swiftly monopolising – but the game will only be produced in 16-bit versions, and the emphasis will be on faster movement as opposed to *Carrier's* complex gameplay.

'In the arcades I used to play *Battlezone* a lot, and I quite liked *Zaxxon* too. As for home games I like Jon Ritman's stuff, and I really got into *Hitchhiker's Guide to the Galaxy* (Steve Meretzky and Douglas Adams) too – though I never could get past the screening door! I think people get the impression that because we produce all this fast 3D stuff, we're a bit snobbish about other people's games – but that's not so. We like lots of other programmers' stuff: it doesn't matter what sort of game it is, so long as they tried hard. The thing **everyone's** been playing round here recently is *Dungeon Master* (Andy Jaus, Doug Bell & Mike Newton) – we really have put in some time on that one.'

MIKE SINGLETON

Mike rocked the games world with his landscaped blockbuster *Lords of Midnight* and its sequel *Doomdark's Revenge*, since which he's also brought us *Dark Sceptre* and *Throne of Fire*. He and his Maelstrom team are currently wrapping up the solid 3D shoot-em-up *Whirligig*, to be followed by various projects as yet still under wraps.

'To be quite honest, I don't play many computer games. I think this is endemic among programmers. Partly it's spending all day working in front of a screen and not wanting to do that after hours too – I don't even watch much telly, never mind playing games – but mostly it's just a sheer lack of time.'

'There are some games that have impressed me: *The Sentinel* in particular. I actually went out and bought a copy of the game, and that is rare. It wasn't the graphics that really struck me – though they were excellent – but rather the way the gameplay was engineered to fit in with them. It was a beautiful piece of inspiration, and turned the limitations of its graphics system into virtues – which is the mark of a really good game. Recently, *Carrier Command* has impressed me too, though I've only had the time for a quick fly round so far.'

THE WINNER

So who comes out on top? Among the oldies Ultimate's *Knight Lore* still reigns supreme, with Geoff Crammond's *Sentinel* and Chris Gray's *Boulderdash* also having strong followings. The current favourite on the other hand must be Realtime's *Carrier Command* – though hardly anyone we spoke to had actually found the time to play it properly!

Against a silver moon ...
an awesome shape emerges ...
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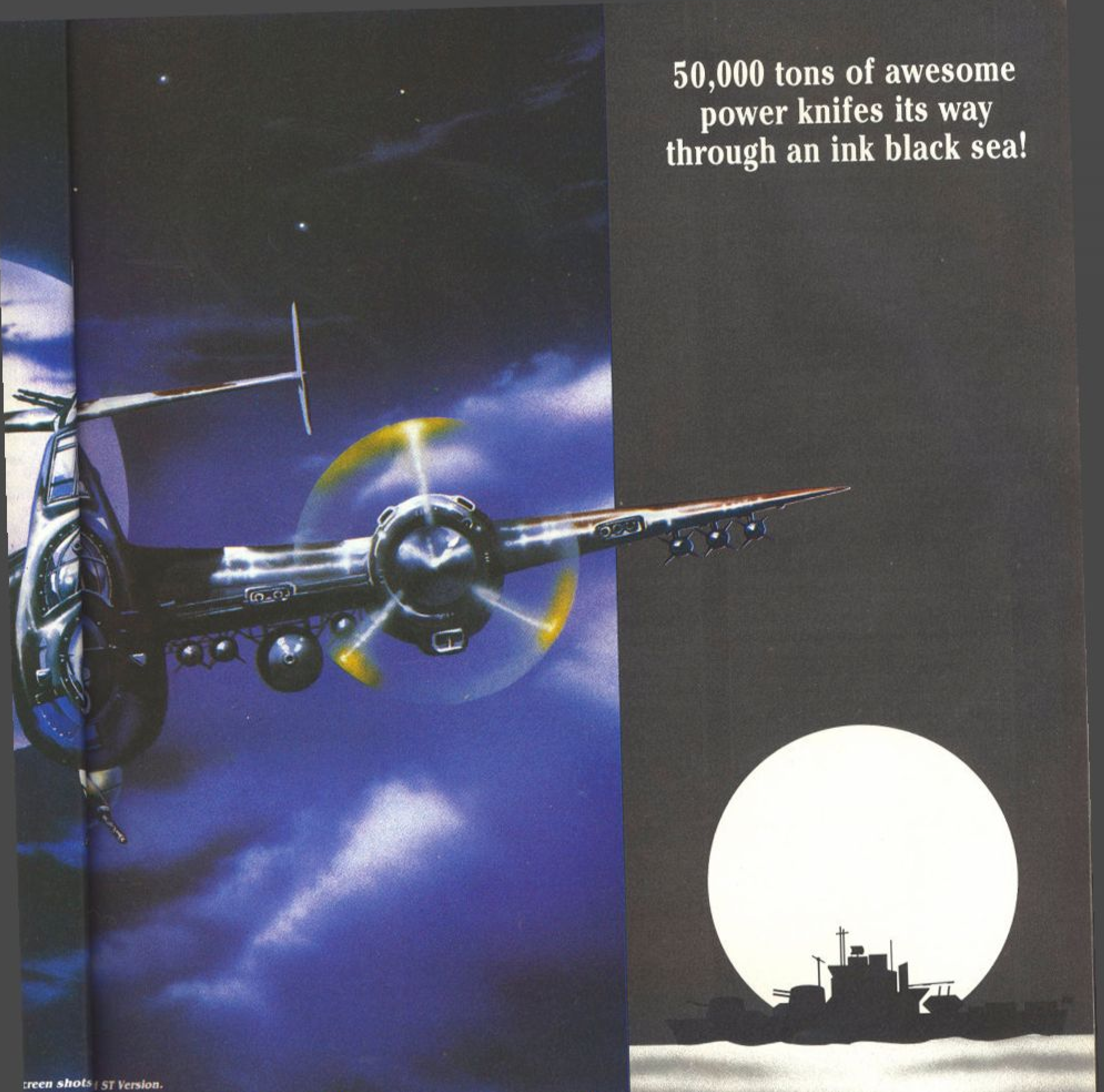

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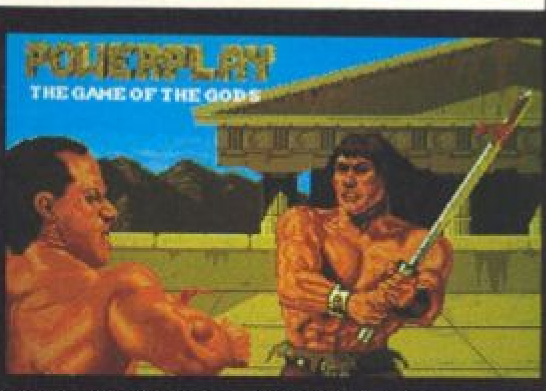
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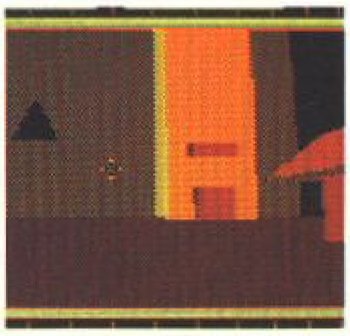
SCREEN TEST

Everyone is catching the fever this month, because *Virus* is spreading like wildfire. You saw it first in the pages of ACE and now the whole software industry is buzzing with excitement about David Braben's blockbusting game. So prepare yourself for the definitive review, from the people who you can trust.

8-bit owners will have just as much fun with *Dark Side*, the sequel to *Driller*, that uses the Freescape programming system. It too is 900 rated – a superb double for programmers Incentive.

Also bursting out of the pages are an exclusive review of Mike Singleton's latest game *Whirligig*, the computer game based on *Mickey Mouse* and a hot update on the Amiga version of *Sentinel*.



THE RATINGS

HOW they're calculated...

If you buy a game, how much enjoyment will you get out of it, and for how long? Just check out our revolutionary PIC (Predicted Interest Curve) for the full story. Brilliant arcade games start high on the curve, and then steadily tail off as you lose interest; powerful puzzle games may ride the crest of the curve for months – but the moment you solve them they'll come tumbling down; complex strategy games may stump you at first – but climb up the scale as you begin to appreciate the scope of the gameplay. And as for the turkeys – they start low, stay low, and have nowhere to go but down, down, down.

Once you've seen how long the game can hold your attention, all you need to glance at is the renowned ACE RATING. This is calculated according to the area under the PIC. The bigger it is, the better the game. Add to that our definitive ratings for IQ Factor (will it give your brain cells a work-out?) and Fun Factor – a measure of instant appeal and exhilaration as you dive into the game. And, of course, we rate the Graphics and Audio effects too...for EVERY machine the game's available on.

WHY you can rely on them...

The ACE reviewing team covers a broad spectrum of computer entertainment talent. Andy Wilton – ACE's resident technical wizz – is as handy with a smart bomb as he is with hexadecimal. Andy Smith wouldn't know hexadecimal from a hole in the ground, but can wipe the floor with any number of aliens. Bob Wade (ex-Personal Computer Games, Zzap!64 and Amstrad Action) has played more computer games than any *sane* person ought to. Add Steve Cooke (ex-PCG and formerly columnist for magazines ranging from Zzap!64 to Your Sinclair) and Pete Connor (ex-Amstrad Action, PCG, and Your Computer reviewer) and you've got age and experience as well as youthful enthusiasm.

Every game on the following pages has been seen by all of us. We compare notes, express differing opinions, and only then do we decide who's to take final responsibility for getting our views into print. What follows, then, isn't just a collection of casual comments, but the definitive ACE verdict on this month's software. We've checked it out – now you can too.

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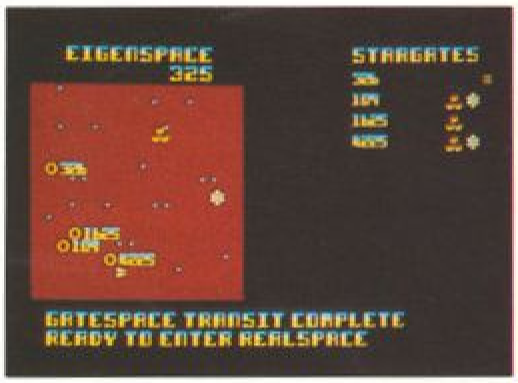
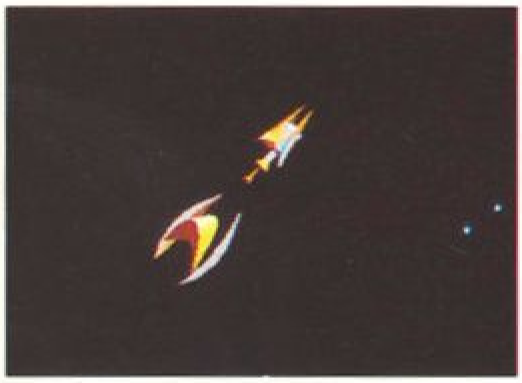
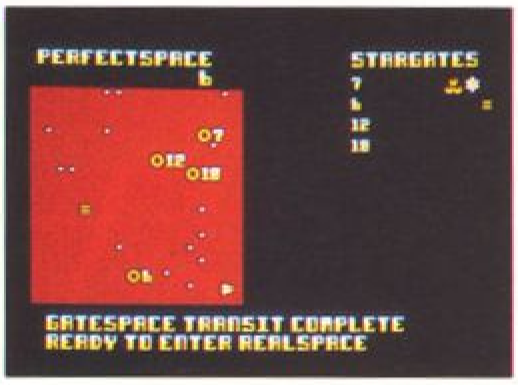


GATESPACE TRANSIT COMPLETE
READY TO ENTER REALSPACE

The map screen - sector 4225's not far away and it's got a fuel and ammo dump. It could also be crawling with aliens...



It is. Scimitar class fighters this time, and with no chaff bombs left it looks like your goose is cooked.



GATESPACE TRANSIT COMPLETE
READY TO ENTER REALSPACE

The first Perfect space sector. Notice how it loops back onto itself. If you're into maths, you'll love working out the Stargate sequences.

WHIRLIGIG

FIREBIRD set things spinning

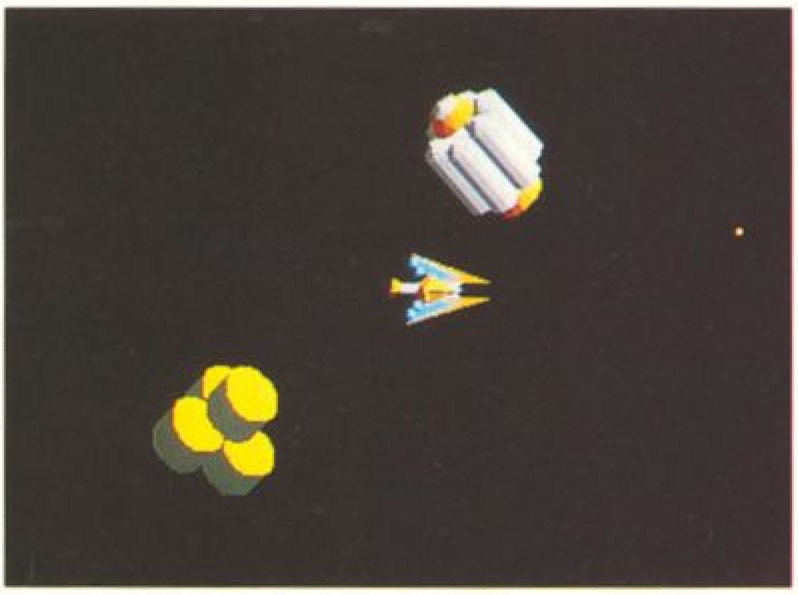
SOME people don't know the meaning of the word moderation. Mike Singleton and the rest of the Maelstrom programming team certainly don't. Their latest offering has some 4 BILLION locations (sectors), that's 4,000,000,000! Each of these sectors is different and collectively they're known as Eigen space. Five of the sectors are known as Perfect space, and it's these five sectors that the game revolves around.

The game opens with a map display of sector zero. Icons in the map represent various objects, including fuel, chaff and missile dumps. Also displayed is an icon representing Stargate 1. The Stargates are the doorways to the other sectors and the numbers tell you exactly which sector they lead to. Small blue dots on the map represent possible positions of hostile aliens. Next to the map is a list of the Stargates in that sector and icons representing fuel etc that can be found in those particular sectors.

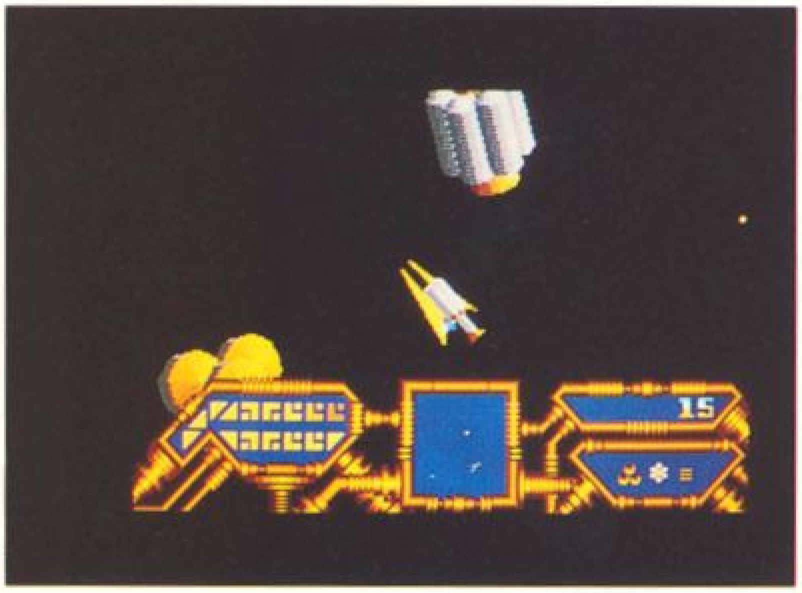
So, sector zero awaits. Press the left mouse button at the prompt and you're transported to the sector. The game view changes completely now. You're looking at your ship in the centre of the screen. To call it solid 3D, or filled 3D would be an injustice, Lightsource 3D is the term you need to describe how all the objects are drawn and shaded, the lightsource being fixed so your ship (and all the other objects) moves in and out of shadow as it twists and turns while you attempt to guide it around the wrap-round sector with the mouse.

You will have already decided how your going to tackle the sector before you actually get there, i.e. whether you're going to re-arm or re-fuel (or both) before you head through a Stargate. It's worth remembering that the links between the Stargates and sectors are mathematically based (e.g. prime number sectors always have a Stargate that will lead back to sector 1).

Once you're in a sector it's time to set about finding your target. A pop-up control panel contains a radar which you can use to guide your ship around the sector. Using this control panel is fine when things are quiet, but once you start coming under fire from either a fixed position enemy installation or a roaming enemy fighter, then it restricts your view and makes your immediate task of surviving slightly more difficult. The control panel's your only way of checking fuel and ammo levels so you have to refer to it occasionally. One thing it doesn't show on your



In a sector containing fuel and ammo dumps. It's a shame we can't show you the superb animation.



Here's a view from approximately the same position but this time you've got your control panel on show. Notice how it obscures your view.

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ATARI ST VERSION

The graphics really are top notch, being both smooth and colourful. The music's good but you can turn it off if you wish. The mouse control used to move your ship around is tough to get to grips with but gets easier as you persevere. All in all, *Whirligig's* a terrific game, it's got plenty of action but it'll get you thinking too as you try to plan the safest route to the high numbered sectors. With *Whirligig* you can dive straight into the action, but it's very much harder to stop playing the thing.

GRAPHICS	9	**IQ FACTOR**	5
AUDIO	8	**FUN FACTOR**	8

ACE RATING 868

control panel radar is the positions of the enemies – roaming or fixed. The fixed installations aren't too much trouble to deal with once you've found them, just loose off one of your heat-seeking missiles and watch the explosions. If the enemy get a shot in first though, you'd better be ready to hit the right mouse button to counter the attack by releasing a chaff bomb. A word of warning is needed here, your missiles are heat-seeking. Loose of a missile with no enemy in range and your missile's liable to home in on your own exhaust!

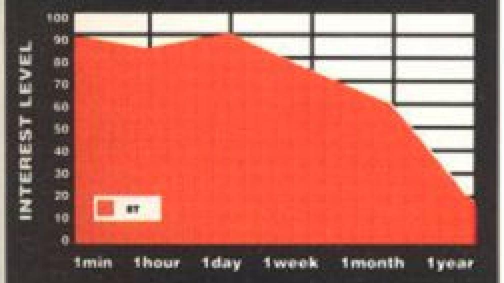
Dealing with the roaming enemies including Scimitar class fighters, Nightshade class fighters and Archer class fighters is not so easy. These fighters vary in viciousness and can be tough to destroy – especially in the high number sectors when you can be fighting more than one ship at once.

If the idea of finding five separate sectors among 4 billion seems like too big a task, don't worry. You're told which sectors are the Perfect space ones, all you have to do is get there in one piece. And working your way through the sectors doesn't take you half as long as you might imagine.

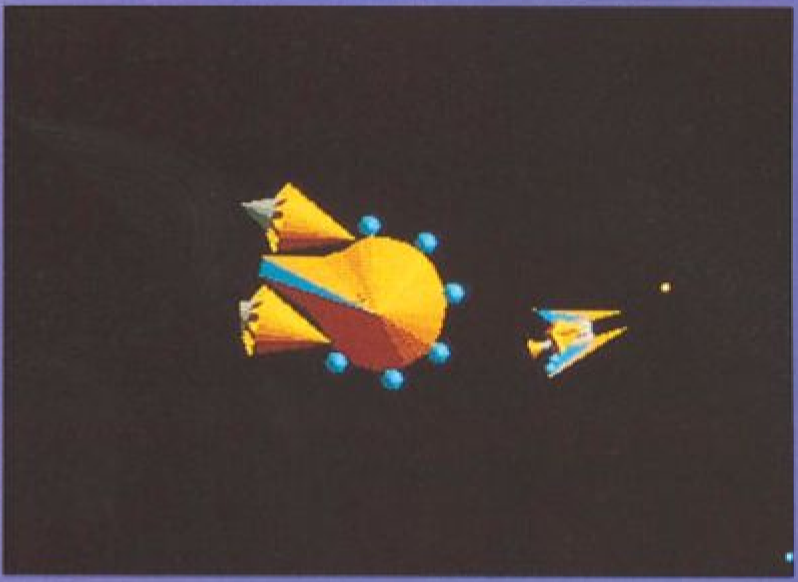
Whirligig's an impressive game and once the novelty of the stunning graphics has worn off, it's not long before you realise just how playable it is too.

● Andy Smith

PREDICTED INTEREST CURVE

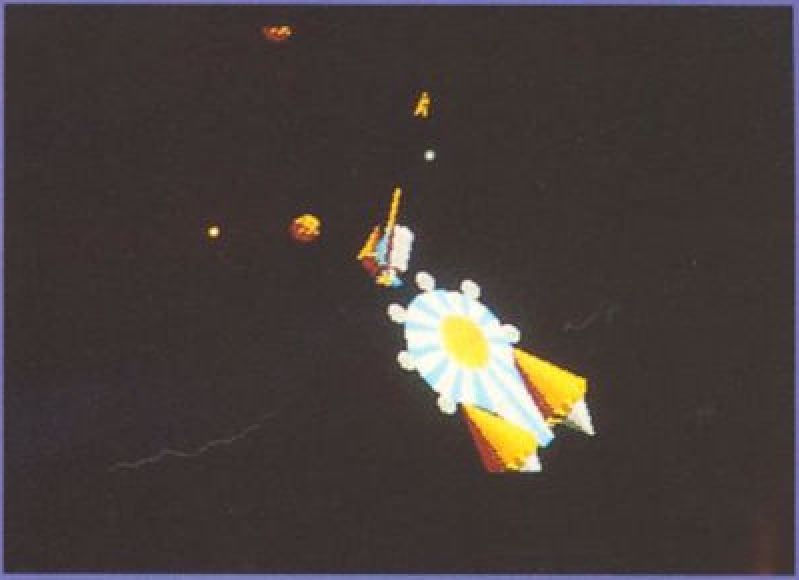


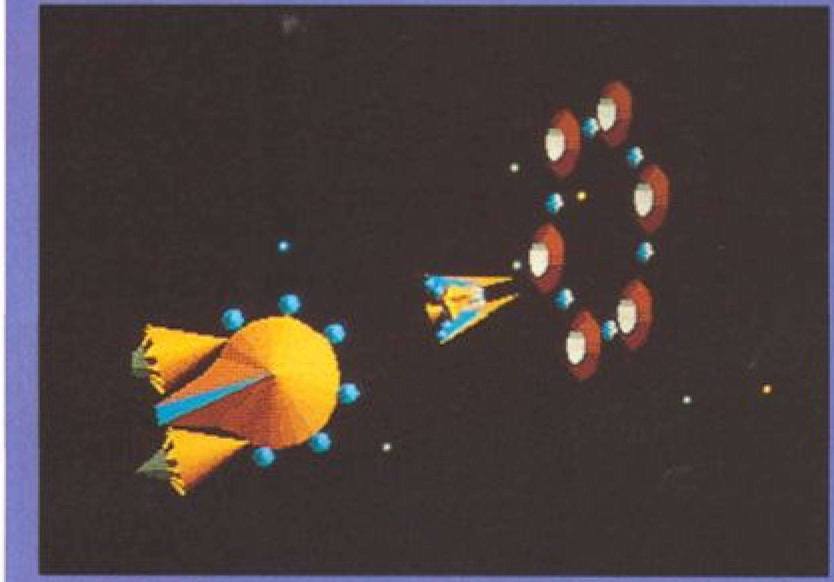
Just misses the ACE Rated category, but it's still marvellous stuff.



Dogfighting your way through the sector. That's a Nightshade class fighter on your tail...

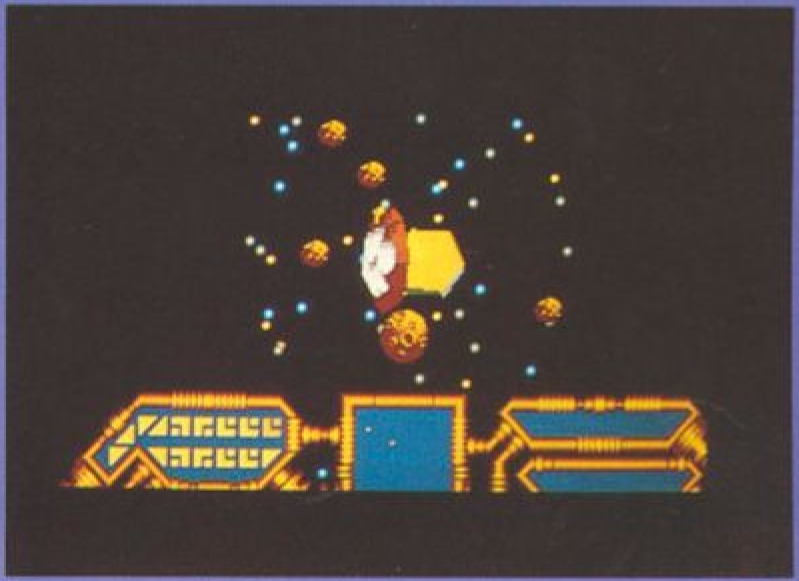
They're tough to shake off... and that missile might not be enough to take it out...

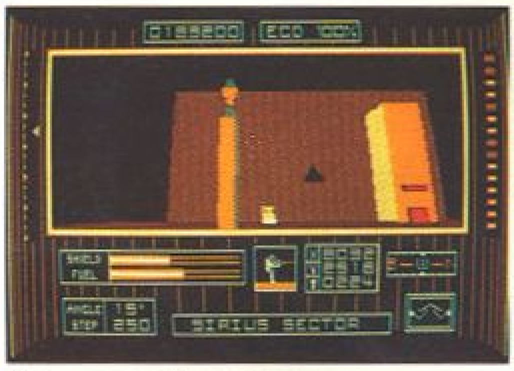




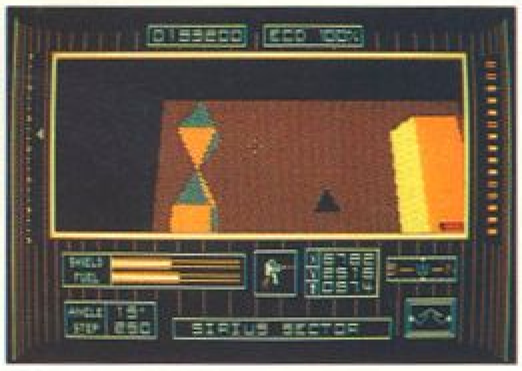
It wasn't and he's hanging on to your tail. But if you can make it through the Stargate you'll be safe.

Phew! Made it. Everything in the sector gets sucked through the Stargate before the screen switches to the map screen.

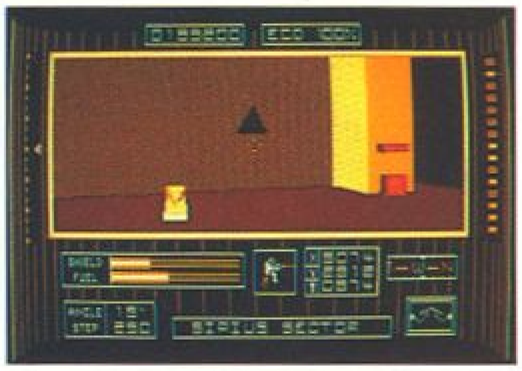




1 You enter the sirius sector.



2 Turning on the jet-pack you get a close-up of the tower top.

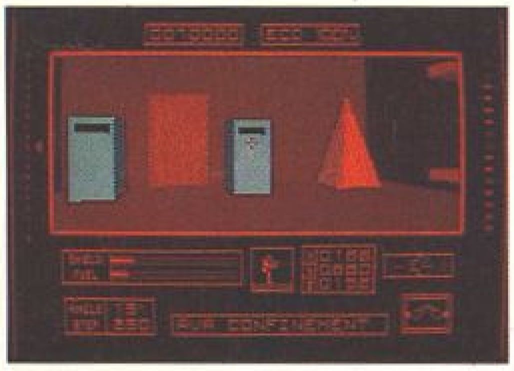


3 Flying forward gets you a better view of the plexor gun on the ground. What can that triangle be for?

DARK SIDE

INCENTIVE scheming in 3D

ULTIMATE were the last software house to come up with a programming technique that took the games world by storm. Now Incentive are causing a similar ruckus with their *Freescape* system. It first made its appearance in *Driller*, and is now used for the sequel – which looks set to be an even more popular success.



This is the prison cell you get thrown into. Lo and behold, inside you find a telepod crystal – but how are you going to get out again?

915
ACE RATED

The game is set 200 years after *Driller* and continues the battle between the Ketars and the Evaths. Your task is to destroy an energy grid which is powering up Zephyr One – a doomsday device aimed at your planet.

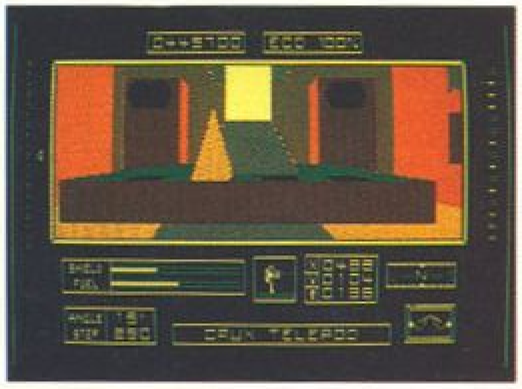
If you've seen *Driller* then you'll immediately recognise the stylish and distinctive *Freescape* system. It creates a 3-dimensional world which you can walk and fly into, over and under. Your freedom is considerably enhanced by being able to fly right from the start with the aid of a jet-pack. However, there isn't much fuel – so no joy-riding.

The view you're given is very versatile. You can look through a 180 degree arc up and down, and also tilt the view. The movement capability is greatly enhanced by the jet-pack – which can go straight up and down – and the ability to crouch and crawl under things.

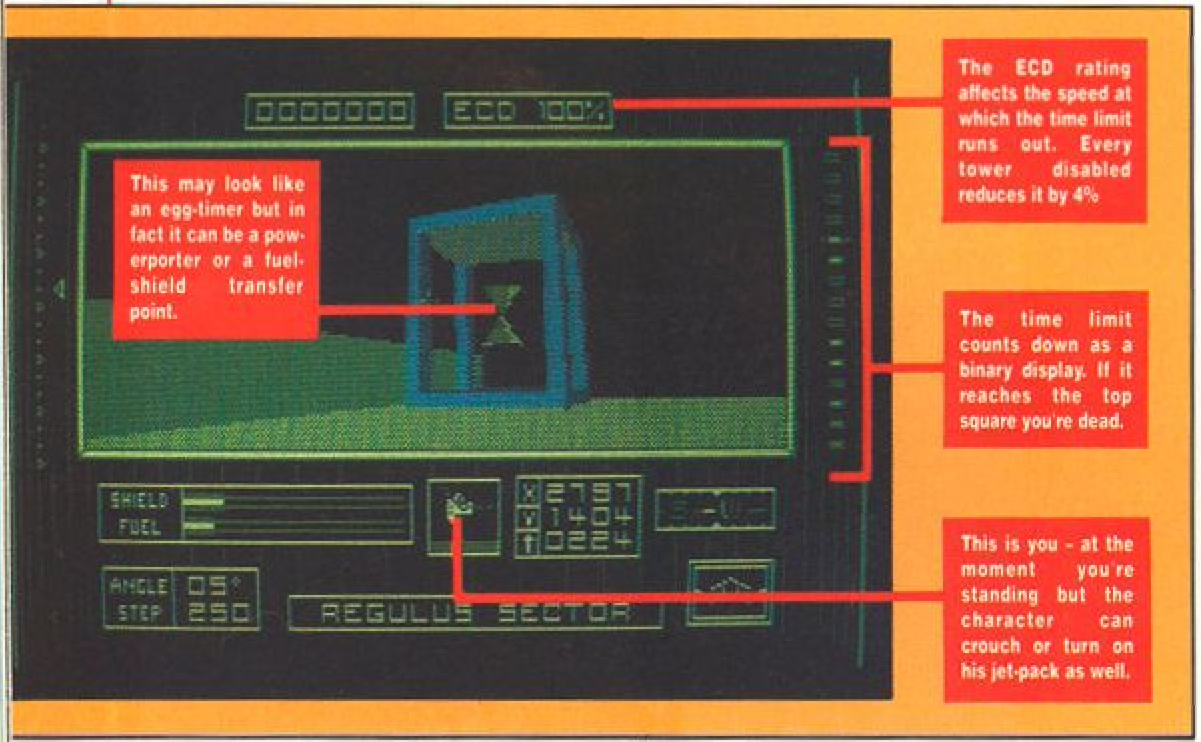
Interaction with the stippled landscape is conducted in one of two ways: either you can shoot things with your laser or walk into them. The latter can be a little dangerous because every time you walk into something you shouldn't it depletes your initially small shield supply. Both shield and fuel levels can be increased by walking into the right object.

Once you're familiar with the environment and your equipment, you can get down to the task in hand. It's more of an arcade game than *Driller*, although the puzzle emphasis is still strong. Destroying the

RELEASE BOX		
AMS	£9.95cs, £14.95dk	OUT NOW
SPEC	£9.95cs, £14.95dk	OUT NOW
C64/128	£9.95cs, £14.95dk	IMMINENT
ST and Amiga versions under development		



This is the interior of the telepod and there's one crystal in place. Shoot it and the pod will move to a new location.

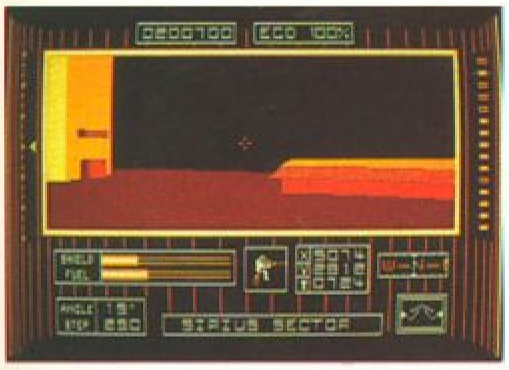


This may look like an egg-timer but in fact it can be a powerporter or a fuel-shield transfer point.

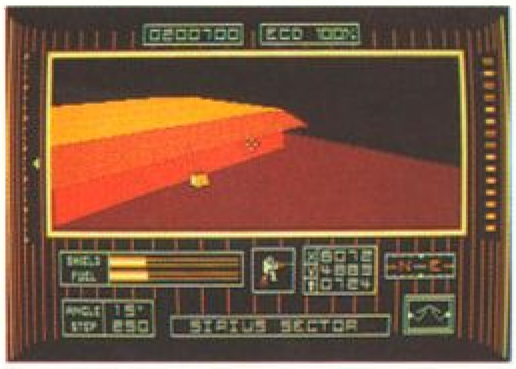
The ECD rating affects the speed at which the time limit runs out. Every tower disabled reduces it by 4%

The time limit counts down as a binary display. If it reaches the top square you're dead.

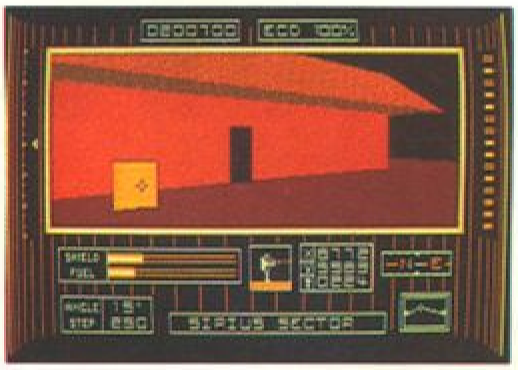
This is you – at the moment you're standing but the character can crouch or turn on his jet-pack as well.



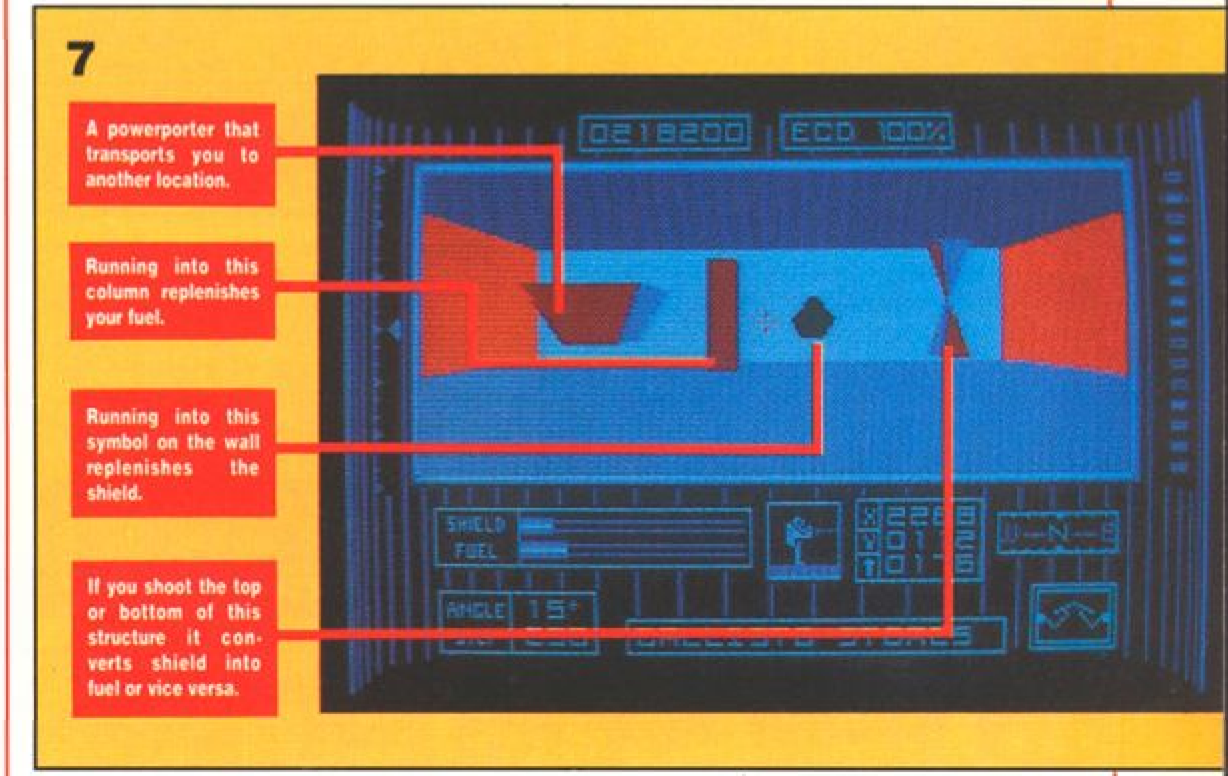
4 As you turn to the right a building comes into view. Let's investigate.



5 Approaching the building reveals a block - wonder what happens when you shoot it?



6 Back on the ground you shoot the block and a door appears. You venture inside...



7

A powerporter that transports you to another location.

Running into this column replenishes your fuel.

Running into this symbol on the wall replenishes the shield.

If you shoot the top or bottom of this structure it converts shield into fuel or vice versa.

energy grid is mostly a matter of exploration and mapping, with more and more puzzles intoduced as you get deeper into the game.

The energy grid is a chain of towers linked by cables that run along the ground. The tower tops have to be shot to disable them. However, if two other working towers are linked to it the damaged tower will regenerate immediately. This is the crux of the game – finding the start of a chain of towers and wiping them all out. This isn't made easier by the fact that some towers are initially connected to up to five others.

It's easy to find a few towers early on that aren't in complicated, criss-crossing chains. This is important because the time limit depends on the number of towers operating. The more towers, the faster time runs out.

Naturally things aren't as easy as that because there are plenty of defences and puzzles to test your skills. The simplest are guns called Plexors which shoot when you get too near. They don't all behave the same though – watch out for reappearing ones and devious ways of getting rid of them.

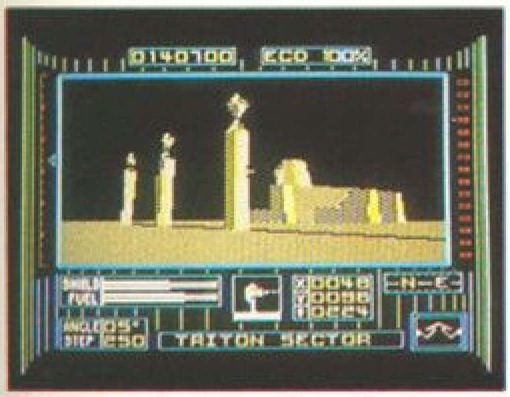
The puzzles mostly consist of working out ways to get inside buildings, and how to switch devices on and off. Rapid travel can be achieved using powerporters which teleport you from on spot to another. The telepod also teleports you, but to use it you have to find four crystals. Each crystal will take the telepod to a different place, and all four are needed to bring about a final victory. The first is easy to find – you'll encounter it by accident – but the other three are altogether much harder to get.

As in *Driller*, you have to watch out for the unexpected around every corner. There's a tunnel network which can get you into otherwise hard to get at locations. It's also used when getting out of the prison cell that the automatic defences can toss you into. You've also got to watch out for fatal drops when the jet-pack isn't on, and the killer satellites that appear above you and start blasting away at your shield.

There's a lot more urgency about the action than in the more sedate *Driller*. The time limit is a tough one and you've got to move fast early on if you're going to beat it. Having said that, it is easy to get into because although the first few games will end quickly, you'll still be finding out lots of interesting things in that time.

It's more absorbing than *Driller*, but probably easier to solve as well. You'll be completely enthralled by it until it's solved but after that there's nothing to come back for. At the reduced price this is even better value than the original. It looks like *Freescape* is going to be around for a lot more games.

● Bob Wade



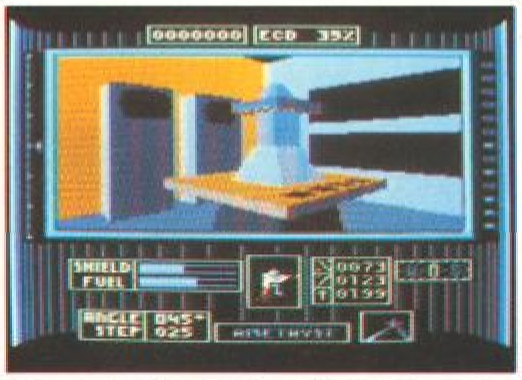
SPECTRUM - equally superb graphics on this version.

SPECTRUM VERSION

It's faster than the Amstrad version but less colourful. The stippling and shading effects mean it still looks fine.

GRAPHICS	8	IQ FACTOR	7
AUDIO	2	FUN FACTOR	6

ACE RATING 904



C64 - not quite finished yet, but we'll update it when it is.

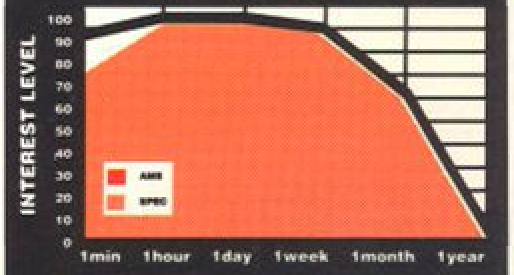
AMSTRAD VERSION

The graphics are of the same high standard as before, excellent use being made of stippling, shading and colour. Movement isn't lightning fast, but with the variable step size it moves at a reasonable pace. The sound is poor but that's hardly a surprise with so much graphics and gameplay packed in.

GRAPHICS	9	IQ FACTOR	7
AUDIO	3	FUN FACTOR	6

ACE RATING 915

PREDICTED INTEREST CURVE



You'll be totally absorbed until you finish it, but after that it has nothing more to offer.

SKATE CRAZY

GREMLIN get their skates on

STREET cred raises its spiky-haired head once more. Forget BMX and skateboarding – rollerskates are back.

The game is split into two sections: a car park challenge and a championship course. In the car park you must travel round a course of gates, jumps and obstacles, performing stunts on the way. The championship is a right-to-left scrolling course where you have to jump over and duck under obstacles, trying to reach the end.

In the car park four judges mark you on speed, complexity and variety of moves – jumps, knocking tin cans over, collecting bonuses and skating backwards. You have to complete the course as fast as possible, still doing lots of tricks on the way. Crashes, skidding and repeating stunts too often can actually lose you points.

On the scrolling championship course you have to skate along (by waggling on the 64) jumping or ducking under obstacles. Along the way you can collect objects that are worth bonus points. Four different courses contain many hazards to knock you down, and some will cause you to instantly lose a life if you don't negotiate them correctly.

You'll really need to practice to get anywhere in the car park section. The championship courses are easier, but still very difficult to complete. It's addictive in its own way, but annoying too because it's so tough.

● Bob Wade

SPECTRUM VERSION

More friendly but still tough. There's no annoying waggling on the championship course, and the manoeuvres are easier in the car park. The graphics and sound are sparse in both stages. However, there's some nice animation for the skating and jumping.

GRAPHICS	6	IQ FACTOR	2
AUDIO	3	FUN FACTOR	7

ACE RATING 600

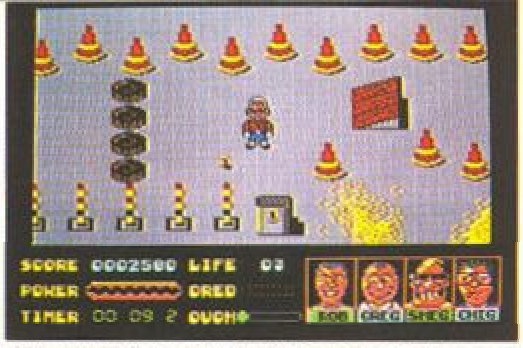
RELEASE BOX		
C64/128	£9.99cs, £14.99dk	OUT NOW
SPEC	£7.99cs, £12.99dk	OUT NOW
AMS	£9.99cs, £14.99dk	IMMINENT

C64 VERSION

An extremely difficult and frustrating version, particularly in the car park, where getting a qualifying score is nigh impossible, except by means of a bonus section where you collect litter. The controls for this and the championship are very awkward too. The graphics and sound are average, but the gameplay difficulty has been set too high.

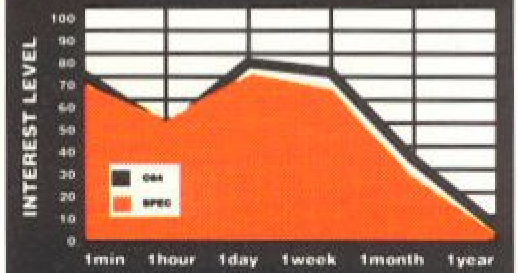
GRAPHICS	7	IQ FACTOR	2
AUDIO	7	FUN FACTOR	7

ACE RATING 612



C64 - you're the cool dude with shades, peaked cap and eight wheels on his feet.

PREDICTED INTEREST CURVE



Practice is needed to overcome the frustratingly difficult elements, but these make the 64 version a challenge for longer.

ALIEN SYNDROME

ACE's mutant hordes

SWARMS of (what appear to be) green and purple maggots are the first thing to greet you in this arcade conversion from ACE (the Softek label, not the magazine). And you're going to be seeing a lot of those in this one or two-player blast as you try to rescue your trapped buddies and escape from the complex you're in.

As if those hordes of hideous mutants weren't enough, you're up against a vicious time limit too. The exit from the level won't open until you've got enough rescued buddies under your belt, and if you don't get there in time...bang! – it's game over.

At first, though, the time limit is going to be the least of your problems as those mutant creatures are horribly numerous, horribly fatal and just...horrible. Fortunately for you, there are various extra weapons to pick up from bays dotted around the complex – and you'll need 'em.

Successfully escape from the complex and you then have to do battle with a very unpleasant end-of-level monster, before setting off all over again in a new, tougher complex.

If the gameplay sounds ever so slightly shallow by now, then don't set your heart on state-of-the-art graphics, either. The scrolling is stiff and jerky, and you have to get far too close to the edge of the screen to make it move. Basically, *Alien Syndrome* is difficult right from the start, and doesn't offer enough interest to make you persevere.

● Rod Lawton

ATARI ST VERSION

Attractive graphics, superficially, but the horizontal scrolling is jerky and crude. The gameplay is tough without having any real depth, while the soundtrack is dreary and monotonous and adds nothing to the game.

GRAPHICS	7	IQ FACTOR	2
AUDIO	2	FUN FACTOR	6

ACE RATING 511

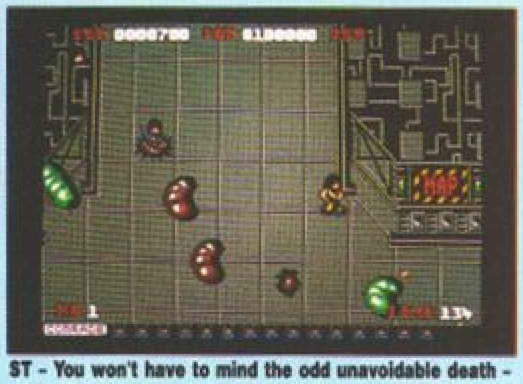
C64 VERSION

Seems slightly easier and thus more playable than the ST version, but that scrolling's even more annoying. You can actually outpace the scrolling on the C64. The pleasant, jaunty soundtrack's a whole lot better than on the ST though.

GRAPHICS	7	IQ FACTOR	2
AUDIO	6	FUN FACTOR	6

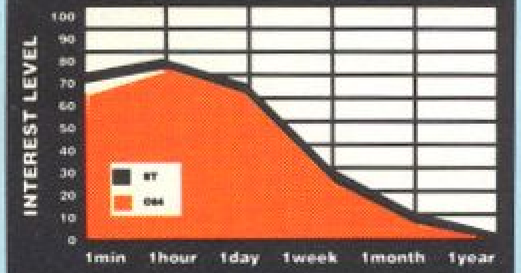
ACE RATING 499

RELEASE BOX		
C64/128	£9.99cs, £11.99dk	OUT NOW
ATARI ST	£19.99dk	OUT NOW
SPEC	£8.99cs, £14.99dk	IMMINENT
AMS	£9.99cs, £14.99dk	IMMINENT
AMIGA	£19.99dk	IMMINENT

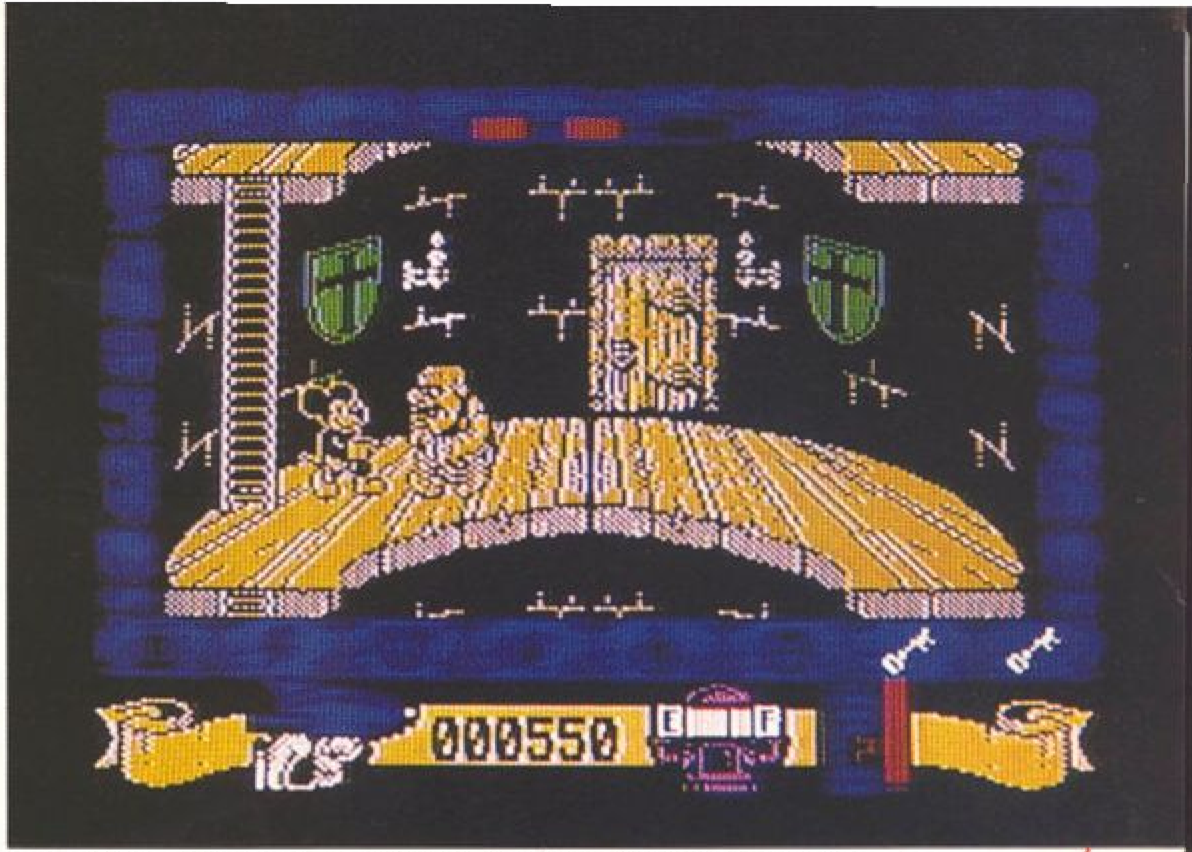


ST - You won't have to mind the odd unavoidable death - this is how close to the edge of the screen you have to get to make it scroll, and there are sure to be some more nasty creatures like those behind you waiting...

PREDICTED INTEREST CURVE



If it was as rewarding as it is difficult, there wouldn't be a problem.



Spec – Mickey encounters a nasty ogre. Bash him with the hammer and he will turn into two little ogres.

MICKEY MOUSE

GREMLIN come to Disney's rescue

HEY Pluto, licences don't come much bigger than Mickey Mouse. He's about to celebrate his 60th birthday, and far from thinking about his pension, he's getting even more active in his old age.

True to his squeaky-clean image Mickey is playing the good guy, trying to save Disney castle from the ogre king who has taken up residence. To evict the evil wretch he has to complete a lot of sub-games and beat off the hordes of nasties sent to stop him. All this while armed only with a water pistol and hammer – what a mouse.

The towers in which the game takes place are circular. You have a cutaway view through one side, revealing wooden floors connected by ladders. On the far wall are doors leading to the various sub-games, and from which the nasties come scuttling out.

The bad guys come in two sizes – little and large – and lots of different shapes. The little monsters are more plentiful and are no match for a medium sized mouse. Some types can be dispatched with the water pistol, others with the hammer. The big monsters split into two little ones when hit with the hammer, so you'll have to go after them as well.

When the monsters are zapped they leave behind an object. These are generally useful, but are sometimes bad for you. Mostly you'll be left water bottles to refill your supply which is drained by the monsters. The other spells that appear will, for a short time anyway, slow the monsters down, speed Mickey up, give you a shield, allow you to walk on thin air, freeze the monsters, and repel them. There's also a black ball which will stun you in the same way as falling through holes in the floor does.

RELEASE BOX

SPEC	£7.99cs, £12.99dk	OUT NOW
C64/128	£9.99cs, £14.99dk	IMMINENT
ATARI ST	£19.99dk	IMMINENT
AMS	£9.99cs, £14.99dk	IMMINENT

C64 PREVIEW

Great big colourful, cuddly sprites are much in evidence, although the towers aren't as detailed. From the preview version, the gameplay is very similar, but obviously neither the graphics nor gameplay is finalised.

ATARI ST PREVIEW

The graphics look superb on this preview version. The animation is excellent and humorous too. Gameplay again seems very similar to the Spectrum, but watch Updates for a definitive view.

SPECTRUM VERSION

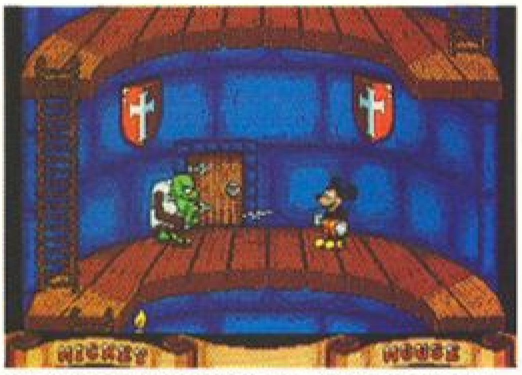
The sprites are big, bold and delightfully animated. Mickey himself has been nicely reproduced. The towers look stylish, but the sub-games don't look half as pretty. The introductory music is excellent and sound effects during the game are minimal but adequate.

GRAPHICS 8 **IQ FACTOR** 3
AUDIO 6 **FUN FACTOR** 8

ACE RATING 743

Before being able to enter a room you'll need to pick up keys left behind by zapped monsters. Inside each room is one of four sub-games. The sub-game has to be successfully completed in order to block up the doorway. Once all the doorways are blocked you can exit to the next tower.

Initially you'll encounter the maze room. Here you have to make your way round a series of flick screens trying to collect a hammer, nails and wood. A black ball tries to stop you – you have three lives in each sub-game. There are also hearts for bonus lives, springs to give you reflective shots, a capsule which gives you immunity and skulls which lose you a life. As you complete more of these rooms the number of balls that appears on each screen increases.



ST – never has a mouse looked so good. Lovely animation and humorous touches too.

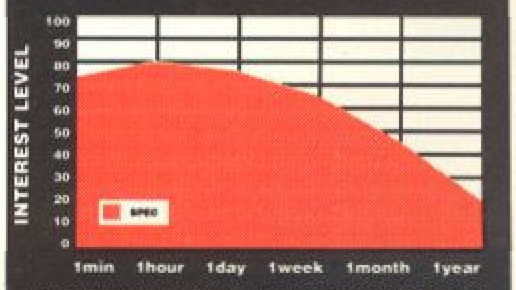
The inverted space invaders room puts Mickey on a revolving balcony. Below him bubbles emerge from nozzles and float upwards, eroding the balcony beneath your feet. You have to throw hammers down to burst the bubbles and also hammer the ghosts who float along the balcony with you.

The other two rooms are a bit wet, because in one you've got to stop a pipe dripping and in the other you've got to turn off taps. To stop the pipe leaking you have to hammer corks into it, while avoiding the monsters, and hit the ogre at the top of the screen when his barrier goes down. The top room has moving platforms which you have to leap around trying to turn four taps off. Once again the ghosts are doing their best to foil your efforts.

The towers get higher and harder as you progress, but initially it's easy to complete a few rooms. It's got a simple addictiveness which will appeal to most players. For those of you who have grown out of watching big-eared, clog-footed, red-shorted mice there's still plenty of action to cope with. The sub-games lack enough variety to make it interesting for long, but it's enjoyable while it lasts.

● Bob Wade

PREDICTED INTEREST CURVE



Lots of rooms and difficulty, but the sub-games lack variety.

PANDORA

The fisticuffs fly with FIREBIRD

PANDORA does its best to offer a modicum of originality as you move about a single-level spaceship exploring cabins, searching bodies, interrogating terminals and evading hostile parties.

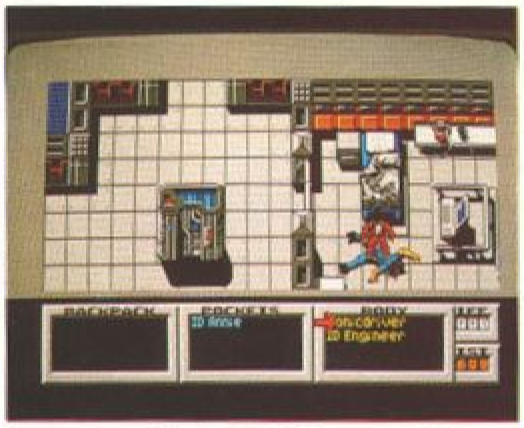
An effective combat system gives a continuous read-out of the energy of both parties combined with comic-strip-style BOPs and OWs and a clever blow-timing system. There are lots of different characters to interact with in a limited fashion by exchanging objects, and the gameplay mixes combat, treasure location, and puzzle solving quite effectively.

To spoil the scenario, you have only one life and can lose it very easily while getting used to the gameplay. Once acclimatised, only foolishness or experimentation will kill you off, giving you more time to concentrate on the puzzles. Unfortunately the bulk of these lack variety and rely entirely upon trial and error – does the Engineer's ID get me through that force-field or not? Oops...no, it doesn't. Start again...

With a game like this, playability and presentation are going to make the difference between a package worth purchasing and one destined for the bin. Check the version boxes for the final verdict...

● Steve Cooke

RELEASE BOX		
C64/128	£9.95cs, £12.95dk	REVIEWED
ATARI ST	£19.95dk	REVIEWED
AMIGA	£19.95dk	IMMINENT



ST – You're searching the body of the engineer. His inventory is displayed in the bottom right-hand box – *can his ID give you access to the engine room?*

ATARI ST VERSION

Superb graphics and satisfactory gameplay generate sufficient atmosphere to gloss over the weaknesses of the scenario. By the time the atmosphere begins to pall, you'll probably have solved enough puzzles to give you renewed enthusiasm.

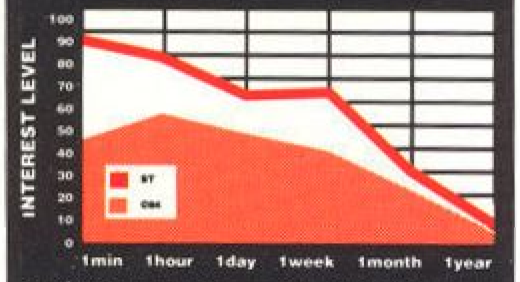
GRAPHICS 8 **IQ FACTOR** 6
AUDIO 4 **FUN FACTOR** 6
ACE RATING 678

C64 VERSION

Eeek! If ever there was an example of how 16-bit presentation can make a game, this is it – the 64 version is lacklustre on-screen and never succeeds in involving the player to the same extent as its ST cousin. Lacking atmosphere, the game reveals its flaws all too soon and fails to impress.

GRAPHICS 4 **IQ FACTOR** 6
AUDIO 4 **FUN FACTOR** 4
ACE RATING 440

PREDICTED INTEREST CURVE



Presentation might keep you going, but the final solution will K.O. any lasting interest.

SHACKLED

US GOLD's kid glove

THIS *Gauntlet* derivative presents a series of overhead-viewed mazes in monotonous, repetitive pseudo-3D style. You (and a mate if you want) manoeuvre your character through the mazes, blasting down prison doors, exploring blind alleys, unlocking gates, grabbing bonus objects, and doing battle with the ungodly.

On each level you'll find that certain dungeons contain your buddies, who will then follow you dutifully about the screen. Each buddy possesses a different firing style, which is adopted by the party until the discovery of the next amigo.

The ungodly are crude and unimaginitive in their behaviour so blasting them isn't very satisfying. Despite the appalling presentation, the game idea still has a certain charm, but whether that would be in evidence once you'd actually PAID for the game is extremely doubtful.

● Steve Cooke

RELEASE BOX		
C64/128	£9.95cs, £12.95dk	REVIEWED
ATARI ST	£19.95dk	REVIEWED
AMS	£9.95cs, £12.95dk	REVIEWED
SPEC	£9.95cs, £12.95dk	REVIEWED

ATARI ST VERSION

More colour, more speed, and boring.

GRAPHICS 4 **IQ FACTOR** 1
AUDIO 2 **FUN FACTOR** 3
ACE RATING 356

C64 VERSION

Rather more colourful, but still slow and boring. The ungodly occasionally get into a fit and run on the spot.

GRAPHICS 3 **IQ FACTOR** 1
AUDIO 2 **FUN FACTOR** 3
ACE RATING 369

SPECTRUM VERSION

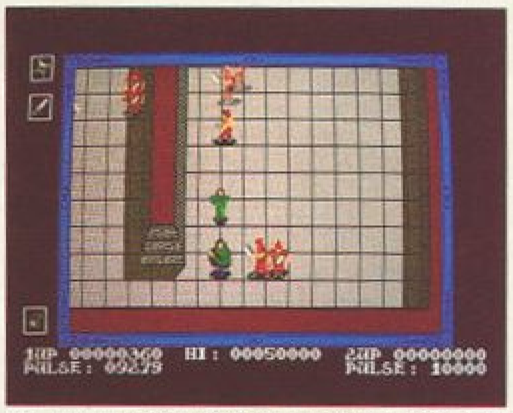
Not colourful, even slower, and boring.

GRAPHICS 2 **IQ FACTOR** 1
AUDIO 1 **FUN FACTOR** 2
ACE RATING 297

AMSTRAD VERSION

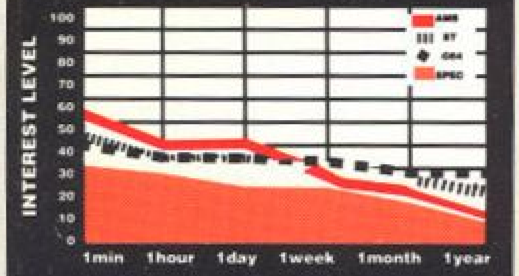
Colourful, slow, and boring.

GRAPHICS 4 **IQ FACTOR** 1
AUDIO 2 **FUN FACTOR** 3
ACE RATING 380



ST – not surprisingly, this is the best of the versions available. We leave the 8-bit screens to your imagination.

PREDICTED INTEREST CURVE



The best thing to do with this curve is ski down it.

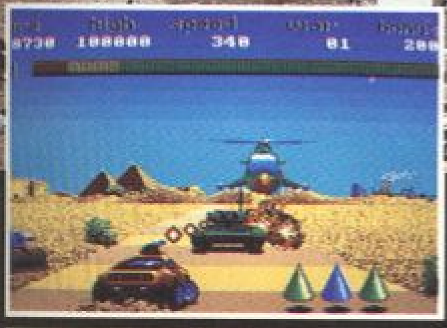
FIRE AND FORGET

THE FUTURE IS IN YOUR HANDS ! FIRE AND FORGET ! NEVER LOOK BACK

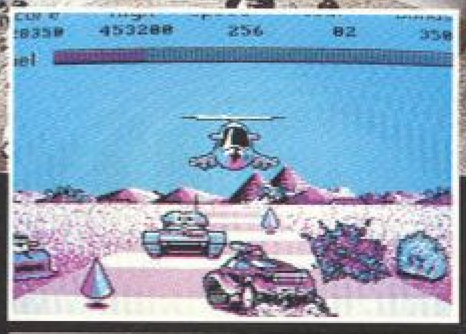
YOU ARE OUR ONLY CHANCE...

TOP SECRET

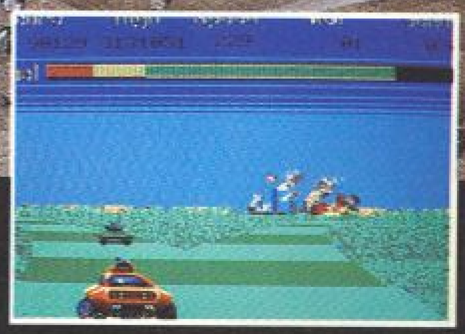
COMING SOON FOR SPECTRUM 48/128, C 64/128
AND AMSTRAD CPC



AMIGA VERSION



PS, PC, XT, AT VERSION



ATARI ST VERSION

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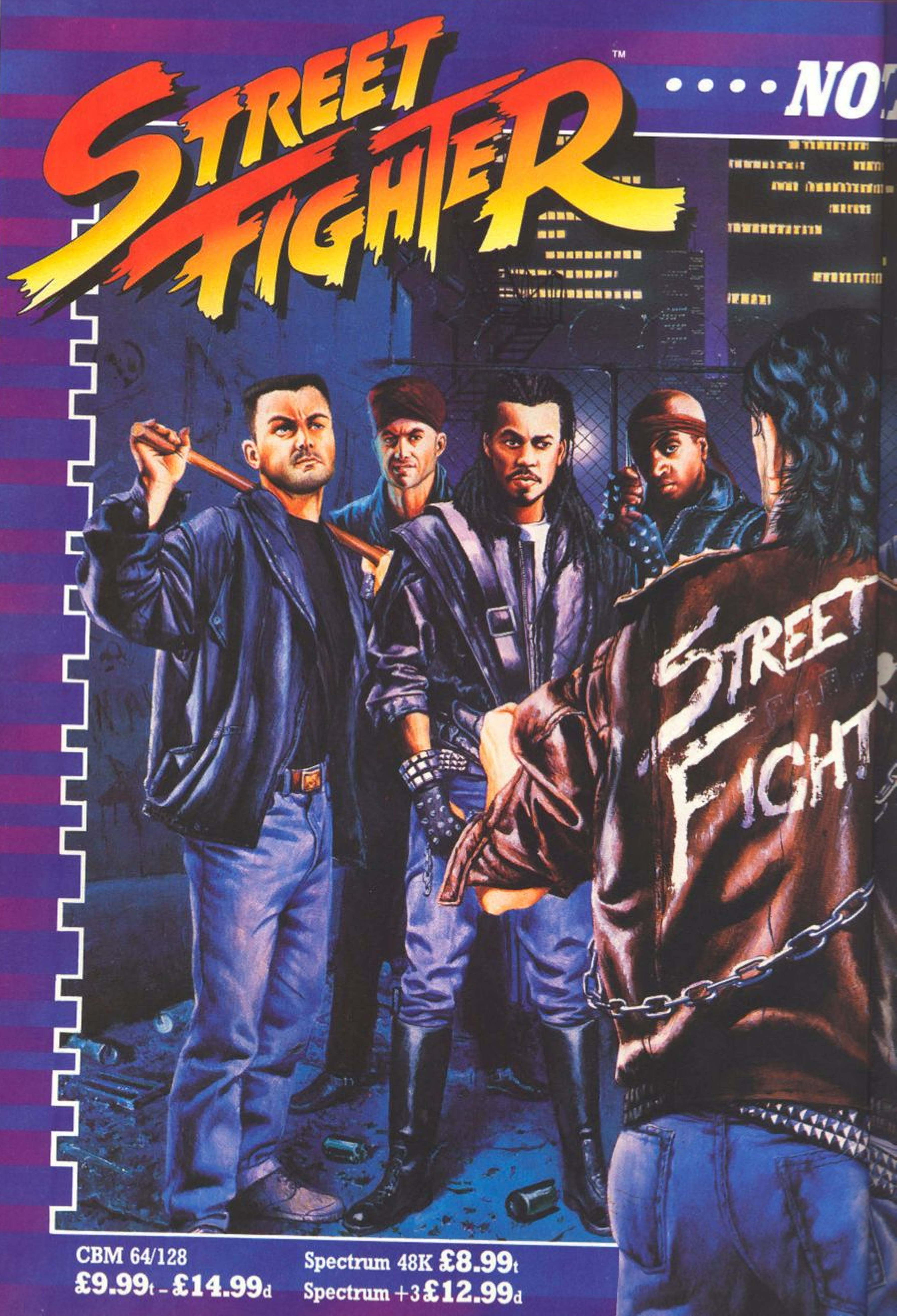
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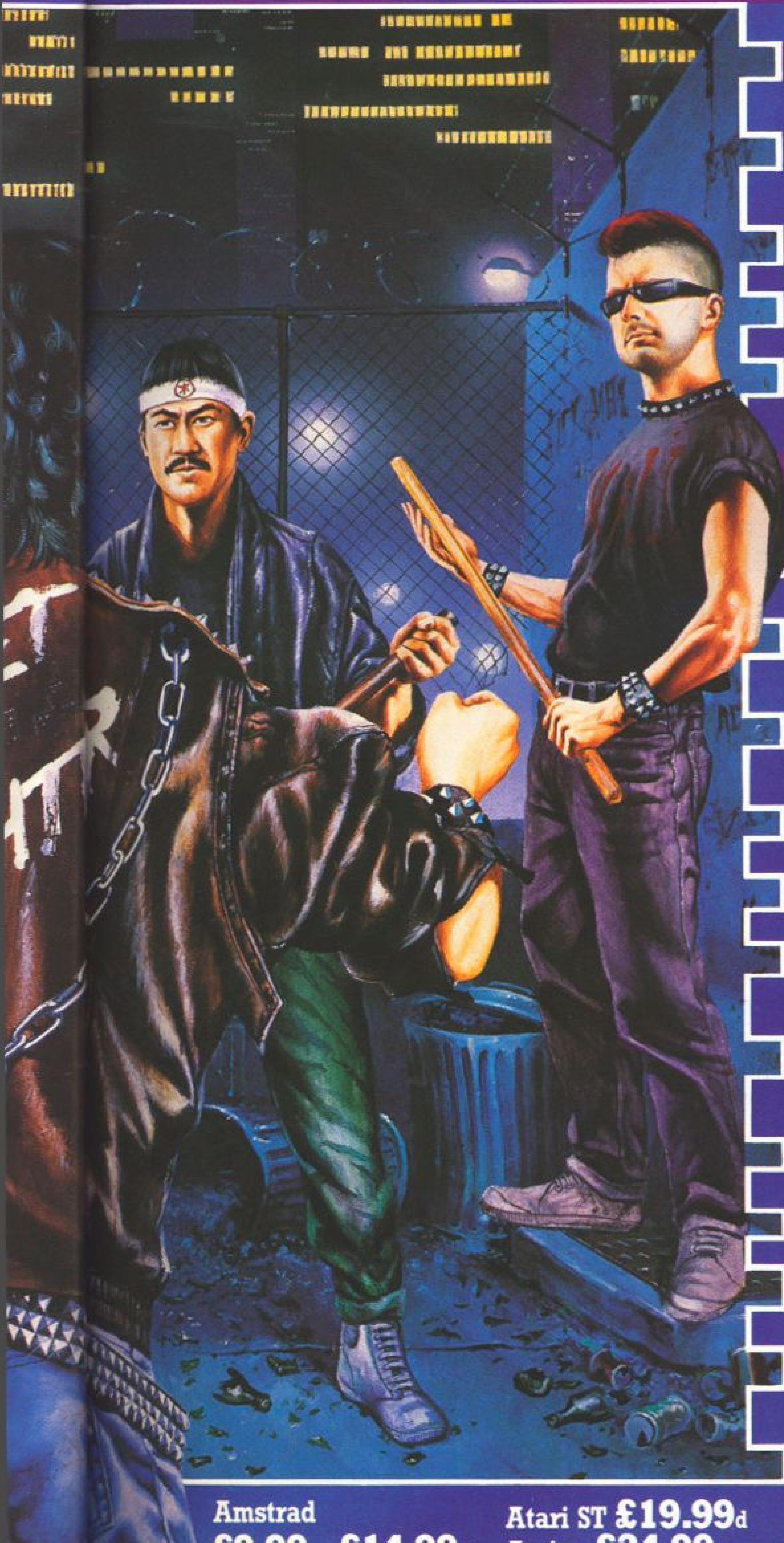
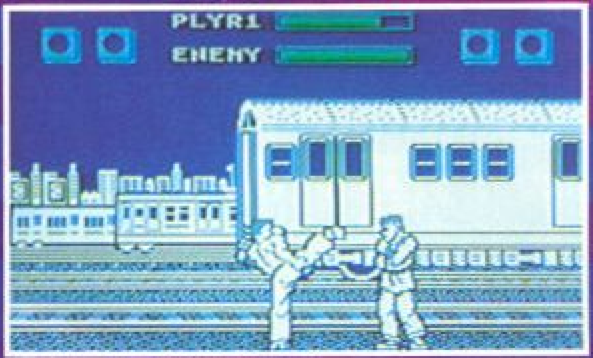
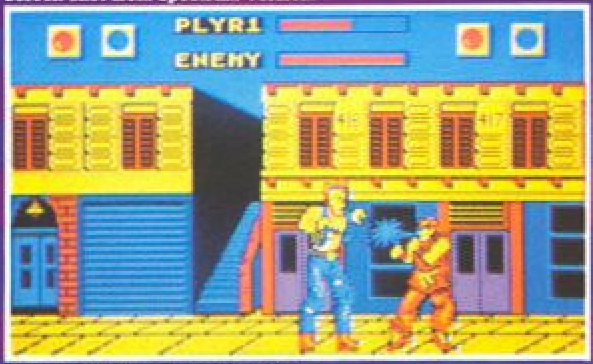
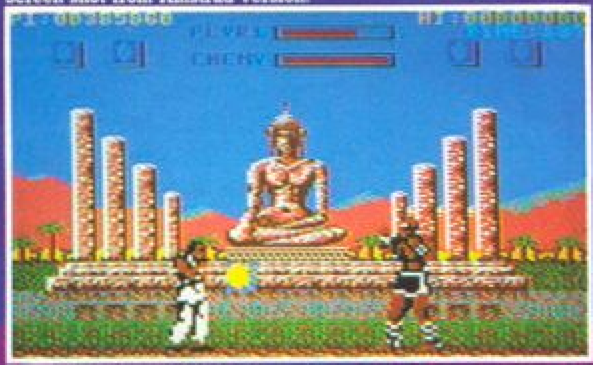




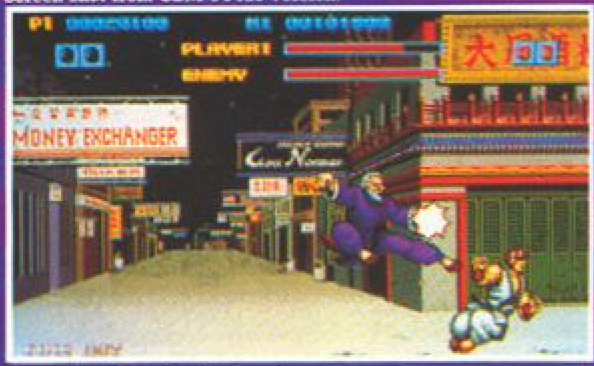
Screen shot from Spectrum version.



Screen shot from Amstrad version.



Screen shot from CBM 64/128 version.



Screen shot from Atari ST version.

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KILLDOZERS

LANKHOR go to war

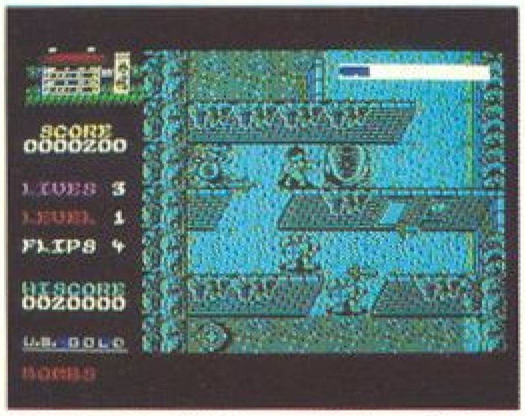
MEGALOMANIAC computers have this habit of popping up and threatening the world. Let's look on the bright side though – you can go after this one with a hard-charging, mean-blasting, robot-crunching tank.

The action takes place in a six-floor factory complex. Each floor is made up of 26, top-viewed rooms. On each floor you have to locate a captured engineer and make it to the exit before the time limit runs out. The time limit is triggered by picking up the engineer and reflects the speed of the tank.

At the start you get a choice of tanks with different ratings for armour, firepower, hit-points and speed. These vary from game to game but generally, the faster the tank the less powerful it is. You're armed with three types of missile: destructor, absorber and armour piercing. The absorbers can be used to drain an enemy's firepower and add it to your own energy reserves. Once an opponent is without firepower you can either take him straight out with destructors or, if he's got heavy armour, weaken him further with armour piercing missiles.

The robot defenders are armed with the same weapons and are frequently much more powerful. However they aren't very mobile or intelligent. As you go through the levels they get tougher but the biggest problem you'll have is one of mapping. This is because there are one-way gates which can easily trap you.

RELEASE BOX		
ATARI ST	£19.95dk	OUT NOW
No other versions planned		



That sphere has got it in for you and don't go on the tartan squares because they disorientate you.

ATARI ST VERSION

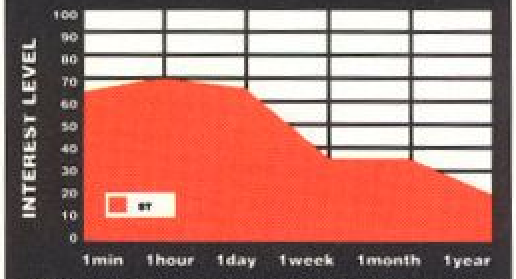
The graphics are nothing to write home about, but that's no surprise with a construction set included. The music and effects are better, although a meatier explosion would have been appreciated.

GRAPHICS	5	IQ FACTOR	4
AUDIO	6	FUN FACTOR	6
ACE RATING 589			

The gameplay is suitably hectic – charging around blasting and switching missiles – but the exploration is the only thing that adds variety. Of course for real variety there's the construction set. This enables you to work out your own game screens. It will take a lot of work but enhances the long term value.

● Bob Wade

PREDICTED INTEREST CURVE



The construction set preserves interest, but it still lacks sparkle.

DESOLATOR

US GOLD crack mirrors

KIDDIES are in need of help, and you're on your way. They're trapped inside mirrors, in a castle bursting with things you'd avoid in dark alleys.

As you move up the screen it scrolls downward – obviously this is a very long, thin castle. Initially your only weapons are your fists, but later on you can pick up more dangerous devices like bombs (Spectrum) and boomerangs (Amstrad).

Mostly you'll encounter henchmen who look and behave much like yourself. There are also bigger, meaner-looking defenders who throw knives or fireballs, and hits from any of these deplete your energy. You face a more abrupt end if you run into a mine or water – you'll cash in your chips pronto.

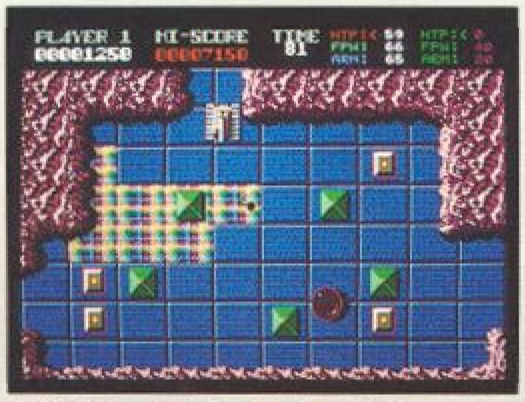
RELEASE BOX		
SPEC	£8.99cs, £12.99dk	OUT NOW
AMS	£9.99cs, £14.99dk	OUT NOW
C64/128	£9.99cs, £14.99dk	IMMINENT
ATARI ST	£19.99dk	IMMINENT

AMSTRAD VERSION

The graphics are garish and blocky. The gameplay is easier than the Spectrum version because the knife-throwers are replaced by predictable fireball-throwers.

GRAPHICS	4	IQ FACTOR	2
AUDIO	3	FUN FACTOR	5
ACE RATING 505			

At the end of each floor there's a tricky screen where disembodied heads bounce around the screen. You've got to let all of them have a bunch of fives in the chops to move to the next level.



SPECTRUM – Watch out for that heavily-armoured guy chucking the cutlery in all directions.

SPECTRUM VERSION

No real attempt at colour here but it has detail and good speed. A reasonable version made difficult by the knife-throwers.

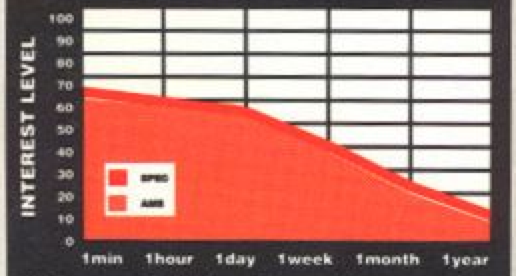
GRAPHICS	4	IQ FACTOR	2
AUDIO	3	FUN FACTOR	5
ACE RATING 505			

On the way along you can pick up extras like money bags and energy. Warps will move you around the screen and jars act like smart bombs. Most important of all are the mirrors. Give them a good thumping and out pop the children for you to collect. Other objects on walls also come into play – clocks freeze the bad guys for a time – and some walls can be punched through.

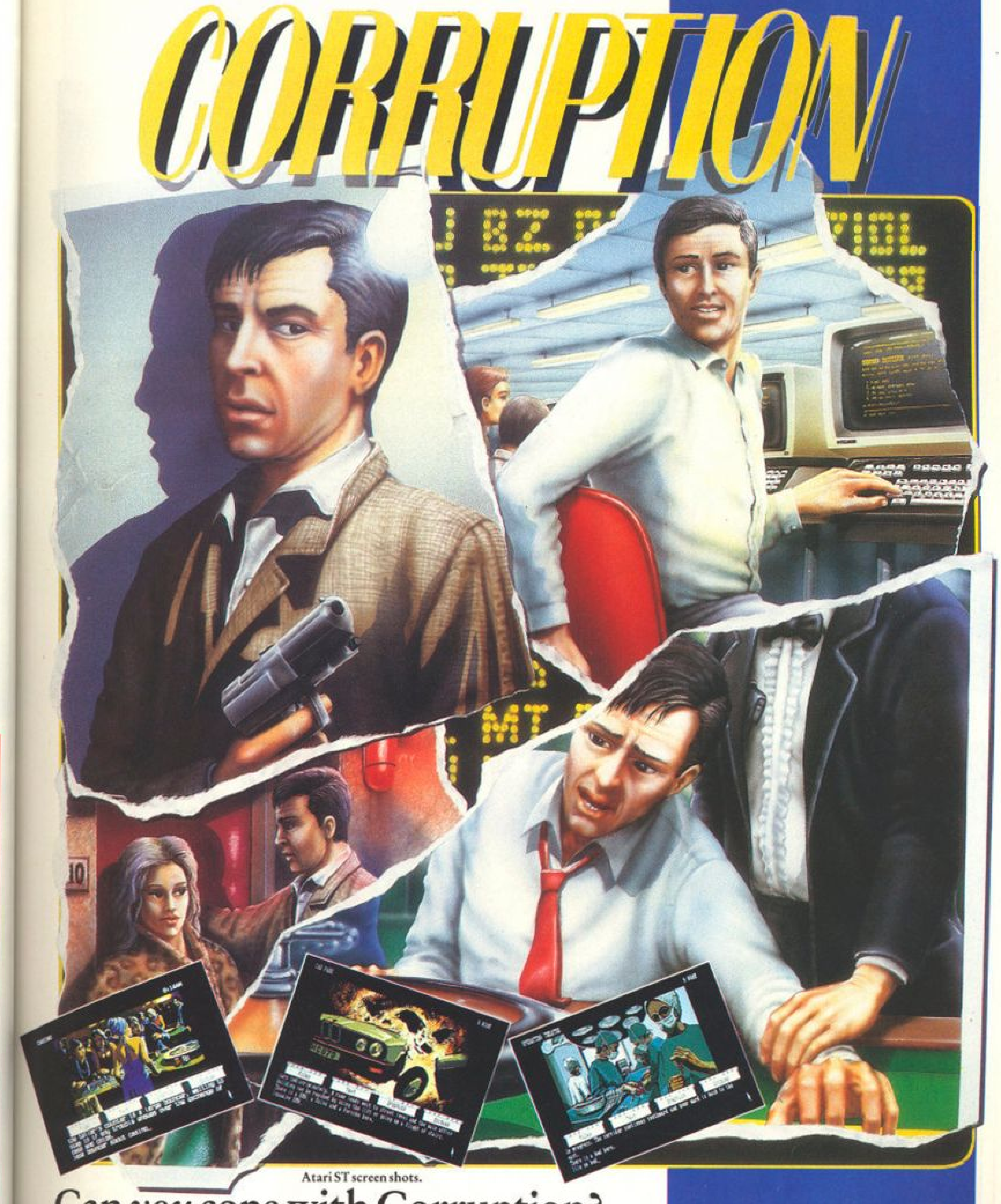
The game's easy to get into, but ends up being frustrating because it's virtually impossible to stay clear of all the trouble. Random elements, like materialising baddies, rolling barrels and such, just make life too hairy.

● Bob Wade

PREDICTED INTEREST CURVE



Not big enough to hold you for long and too many random elements.



Atari ST screen shots.

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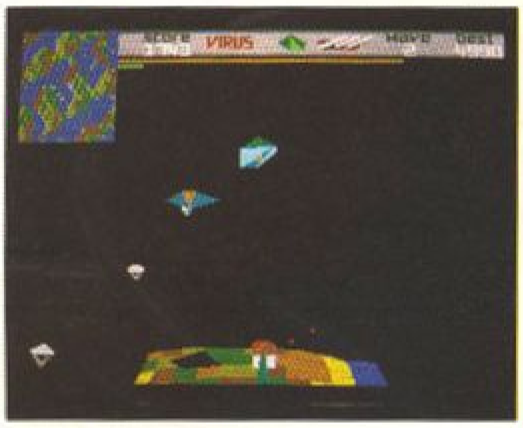
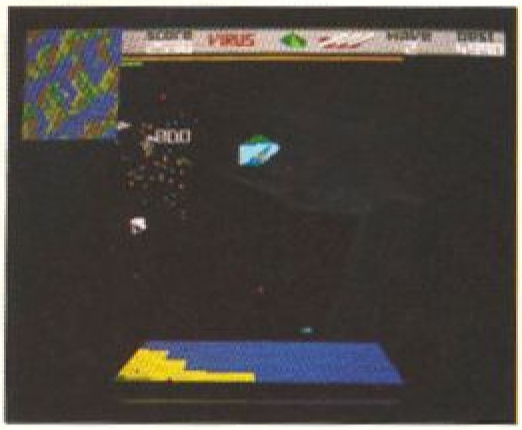
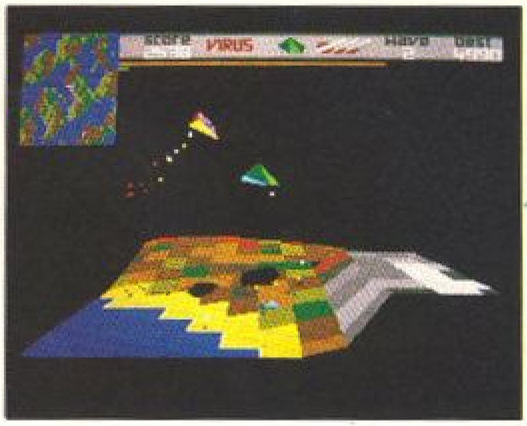


Before: You've just caught up with a bomber – a tough task considering how fast it's moving – but the blighter's still dropping virus bombs across the landscape.

▼



After: A quick burst of cannon fire from your hoverplane helps make the world a cleaner place – and earns you 800 points into the bargain!



Before: as you fly in to refuel, a drone pounces on you from above. Its purple and yellow colour scheme indicates that it's mutated, making it rather tougher than normal.

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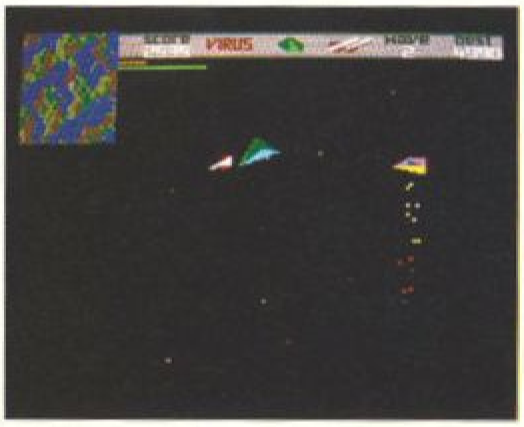
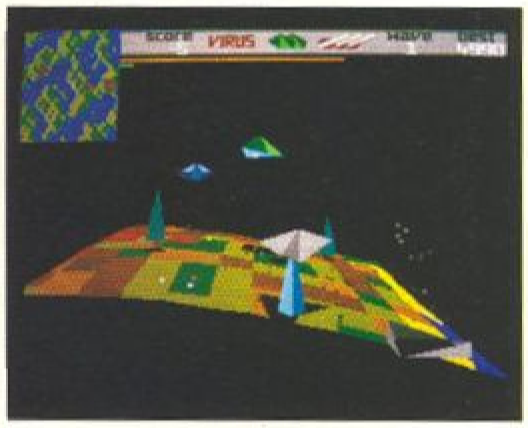


After: you've pulled away from the planet surface in a bid to outclimb the mutant, but he's kept the upper hand. Time to loose off a homing missile before your shield runs out!



Before: you've found an alien seeder (background), but the explosion at bottom right and the shadow next to yours mean a drone's bearing down on you, firing as it goes.

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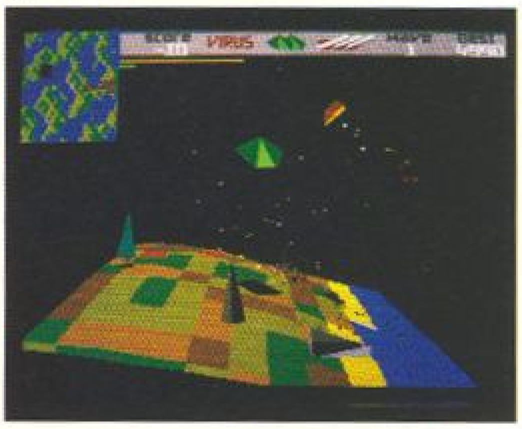

After: the drone's on screen now, but another of his shots has wrecked that radar pylon in the foreground. This leaves a blank area on your scanner (top left) as you can see.

VIRUS

Can FIREBIRD stop the rot?

PANIC and you're dead, stay calm and you probably aren't human: the aliens have come to spray red virus all over the planet, and you're the only thing in their way! But can you stay in control of your hoverplane? Can you figure out the firing angles? Can you get them before they get you?

Yes folks, at long last the game everyone wanted and (almost) no-one could actually get a shot at last year has made it down to the 16-bit machines. Down that is from Acorn's 32-bit Archimedes where, under the name of *Zarch*, it was the sensation of the Personal Computer World show. On the Archie a demo of the game – then only called *Lander* – went out with every machine sold, thus drumming up a nice demand in advance for *Zarch*'s publishers Superior Software. Firebird will have no such head start with the game on the other machines but then – on the ST at any rate – they really aren't going to need one.

Let's face it, this game is absolutely the cat's whiskers. It's got that rare combination of stunning over-the-shoulder attraction, instant heart-pounding playability and a monstrous long-term challenge. Even before you play you'll be hooked by the demo's display of rolling landscapes, swooping action and scintillating explosions. Just wait till you get in the pilot's seat though: you'll be staggered!

It's hard to overstate just how exciting the game is, and how satisfying the controls are to use once you've mastered them. Using only mouse movements to tilt your hoverplane and presses on the left button to burn fuel, you can string together flying moves that are fluid, dizzyingly fast or

981
ACE RATED

FROM *LANDER* TO *VIRUS*

At the risk of blowing our own trumpets, we'd like to remind you where you saw this one first. Remember our Solid Stuff feature way back in ACE Issue 2? That article carried the first shots of the finished *Zarch* printed anywhere. Remember the review we did of it the month after? Or the photos of the ST conversion – not even known as *Virus* at that stage – back in ACE Issue 8? Both of those were firsts too.

Even before any of this, we were onto the story. Check out the news pages of ACE's very first issue, if your collection goes back that far, and you'll find the original demo *Lander* pops up in a story there – almost a year ago. It's an emotional experience to see a game this good right the way through from a sneak preview back before the Archimedes was even launched to a fully-fledged ST blockbuster with Amiga and Spectrum versions to follow, but that's just what we've done here on the ACE team.

If you want to know what's already happened, there are plenty of other mags you can read: if you want a vision of the future, there's only ACE.

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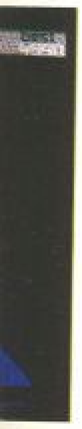

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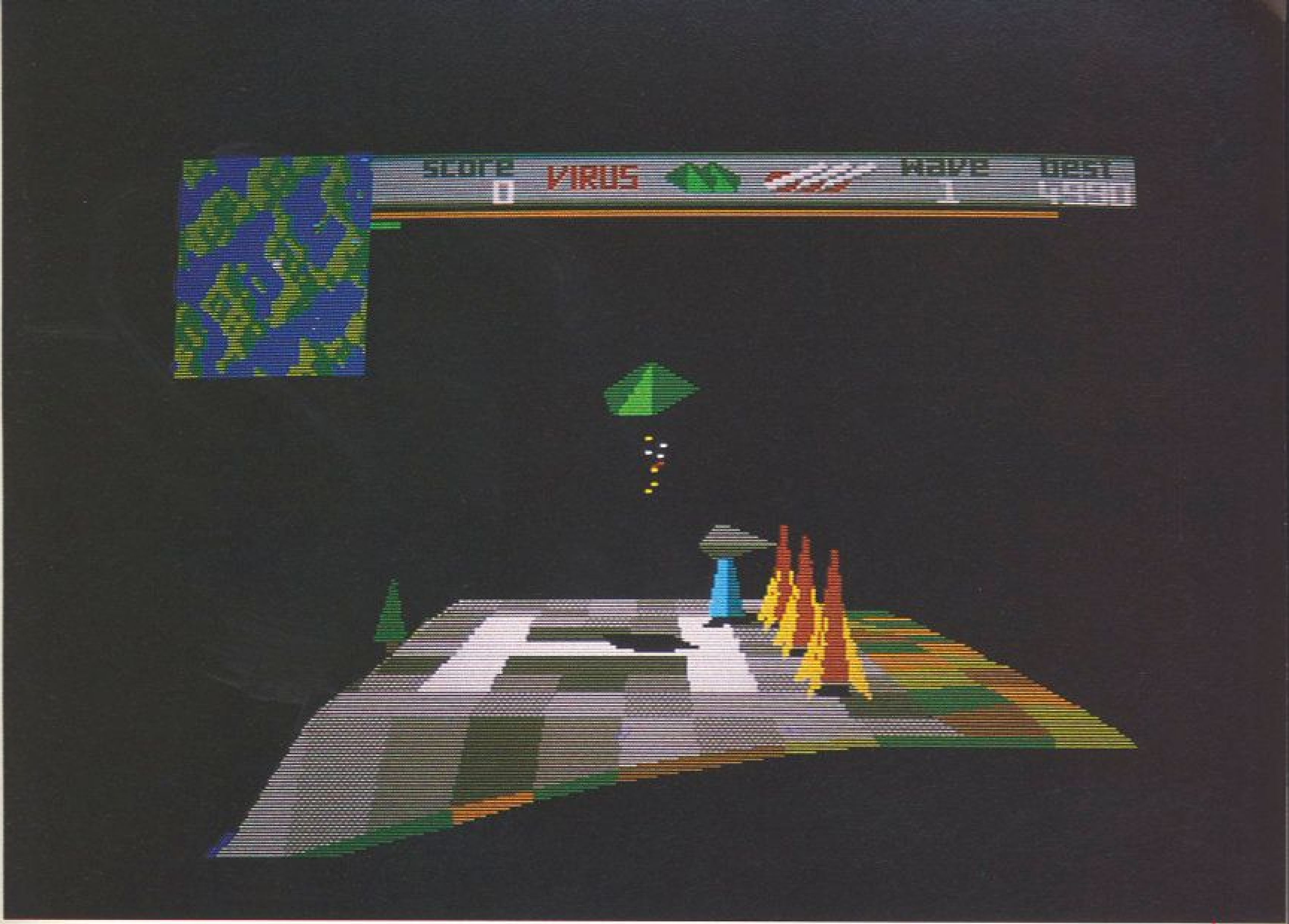
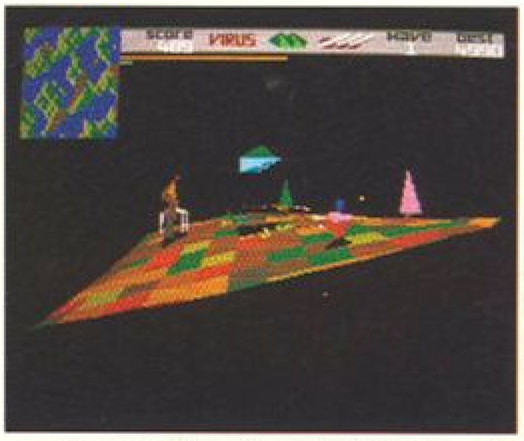
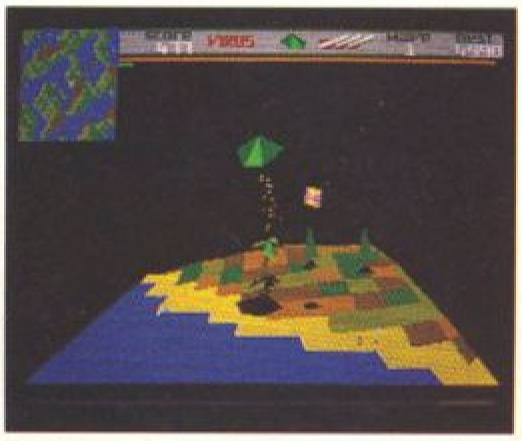


Taking off from home base, you head off in search of enemy seeders.

RELEASE BOX		
ATARI ST	£19.95dk	OUT NOW
AMIGA	£19.95dk	IMMINENT
SPEC	£7.95cs, £12.95dk	IMMINENT



A seeder's certainly been this way: just look at those discoloured trees!



A pest zooms down below your hoverplane. It's trying to ram you, but its aim was thrown by that quick burst of thrust you've just used.

breathtakingly delicate. Pour on the thrust and throw the ship over to one side as you tear up off the landing pad, and at once you're hurtling into the heart of the action.

Once you've figured the controls out well enough to reach one of the blips on your scanner, then things really start getting interesting. At first you'll be after seeders – flying saucers that lazily drift over the landscape spraying the foliage, landing occasionally to provide a stationary target – but you'll need good control skills to bag even these stupid, defenceless foes. As for the pests (tiny garish homing missiles) and drones (alien hoverplane interceptors) which attack you even on the first wave, these can be so tough that you may well resort to homing missiles. It's a shame if you do, though, because homers are in very short supply, and on the next few waves you'll have far greater need of them.

Just what's so difficult about those later waves? Everything! The game starts throwing drones, fighters (like drones only 'meaner'), bombers (fast transports dropping virus bombs – and watch out for the bomb-bursts!), pests in their droves and much worse, as well as the obligatory seeders plodding away. Increasing gravity is also a problem, and since the landscape's only decontaminated every fifth wave there's the risk of being completely overrun if you don't work fast.

Comparisons with *Oids*, *Thrust* or plain old *Defender* might give you a taste of the get-down arcade feel to this one's gameplay, but really *Virus* is in a class of its own. It's visually just about perfect too: watch out for the flying fish and the sea monsters! The sound effects are both entertaining and useful, the game logic hangs together nicely and the technical achievement will really amaze all you code-freaks out there. It's just too good to be true!

● Andy Wilton

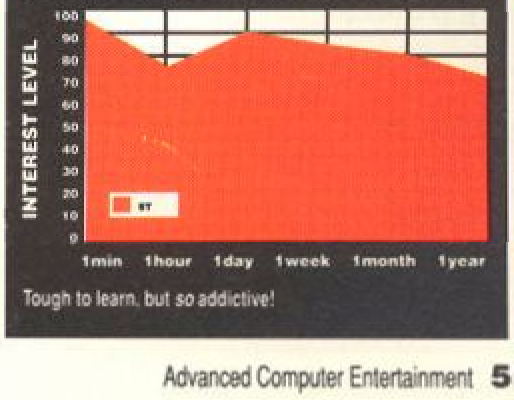
ATARI ST VERSION

Pictures can't do justice to the graphics on this one, but they're the least of its charms. A game that looks this good simply has no right to be this addictive too. You never dreamt your ST could do these things. Buy it and believe it.

GRAPHICS	10	IQ FACTOR	3
AUDIO	6	FUN FACTOR	9

ACE RATING 981

PREDICTED INTEREST CURVE



Tough to learn, but *so* addictive!

STAR FLEET 1

ELECTRONIC ARTS beam up

KRELLANS may be mean alien types, but at least you can see their starships, which is more than Zaldrons will allow you to do. And as commander of an Invincible Class Heavy Cruiser, whose job it is to keep Alliance space clear of these invaders, this can pose you problems.

If you've already started thinking of stunning Amiga-style 3D dogfights, think again.

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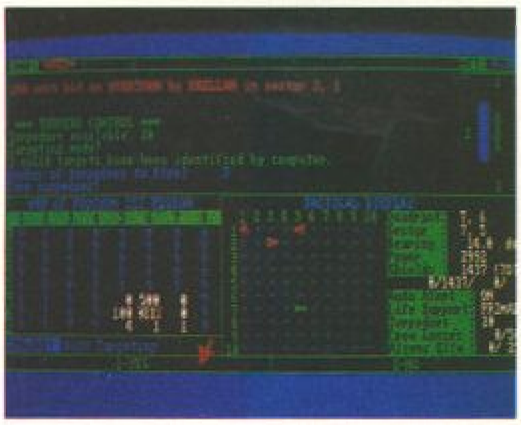


AMIGA - In the middle of a battle with some evil Krellans. You could try disabling one or more of them and then use your tractor beam to tow them to the nearest starbase (that bumps your kill rate up nicely).

Star Fleet 1's graphics are far from state-of-the-art and there's not a cockpit view to be seen. The screen breaks down into sections including a grid-map of the region of space you're currently patrolling and an adjacent grid that 'zooms in' on the particular sector you're in. Towards the top of the screen is the text window where messages are displayed.

The aim is to work your way up through the ranks from a lowly recruit to an Admiral by successfully completing a number of missions, each requiring you to destroy a set number of enemy ships within a time limit. You're armed with phasers and torpedoes and every successful mission bumps your kill rating up a few per cent.

Star Fleet uses a very old game style but it can still be fun to play. Special missions appearing later in the game keep you interested for a while but the repetitive nature of the game soon sees your interest waning.

● Andy Smith

AMIGA VERSION

The graphics are spartan and sound is not impressive. The game's controlled by clicking a mouse pointer on various boxes, which works well as there's no real-time element. *Star Fleet 1*'s fun to play but it's a bit long in the tooth and the nature of the game's very repetitive.

GRAPHICS	**1**	**IQ FACTOR**	**3**
AUDIO	**2**	**FUN FACTOR**	**6**

ACE RATING 386

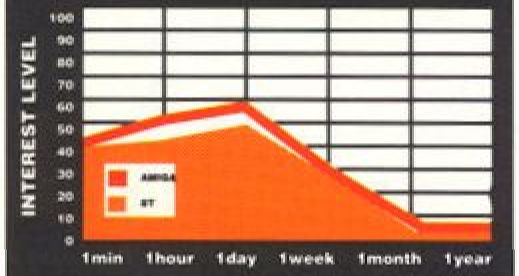
ATARI ST VERSION

The game's the same on the ST but plays much slower – tediously slow at times. You'll find it hard to stay enthusiastic playing *Star Fleet 1* on the ST.

GRAPHICS	**1**	**IQ FACTOR**	**3**
AUDIO	**2**	**FUN FACTOR**	**6**

ACE RATING 363

PREDICTED INTEREST CURVE



Nostalgia for an old game-style and initial intrigue succumb inevitably to the monotonous gameplay.

THE GREAT GIANA SISTERS

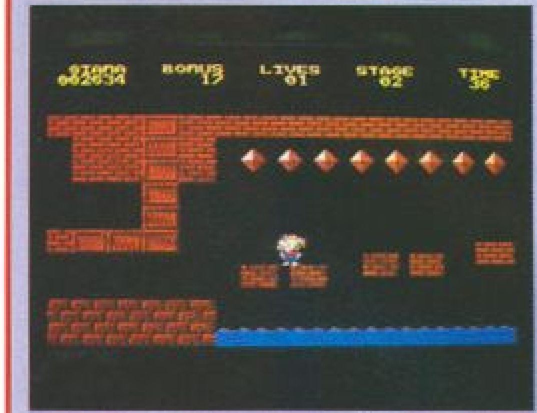
Headbang with RAINBOW ARTS

LITTLE Giana from Milano is a troubled sleeper, it seems. She and her sister Maria regularly dream of a strange, mysterious world of puzzles, hazards and dangerous creatures. Your job is to guide Giana (and her sister, in the alternating two-player mode) safely on her quest to find a huge, magic diamond that forms her only means of escape.

Giana Sisters plays more than a little like *Super Mario Brothers*. It's basically another scrolling platform game with bonuses to collect, creatures to avoid and timing/control problems to overcome. There are some amusing little twists, though. For example, how do you deal with those nasty beasties? Simple – jump on 'em! And to collect bonuses you jump up and bash the marked bricks with your head! These bonuses give you anything from extra lives to the ability to shoot 'dream bubbles' which take out those creatures in your way.

The graphics are cute, and the accompanying music jaunty, but it's questionable whether you'll stick with the game through all 32 levels to reach that magic crystal.

● Rod Lawton



AMIGA - You can jump up and get those bonuses - but don't fall in the water!

RELEASE BOX		
ATARI ST	£19.99dk	OUT NOW
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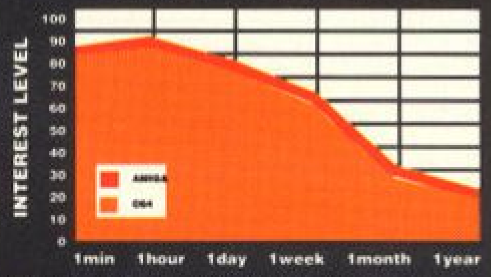
PREDICTED INTEREST CURVE



Playable and fun for a while, but ultimately lacks depth.

C64 VERSION

Excellent graphics, and as much playability as the 16-bit versions.

GRAPHICS	**7**	**IQ FACTOR**	**3**
AUDIO	**6**	**FUN FACTOR**	**8**

ACE RATING 701

ATARI ST VERSION

There's little to distinguish this from the Amiga version. Nice and colourful, with good sound.

GRAPHICS	**8**	**IQ FACTOR**	**3**
AUDIO	**7**	**FUN FACTOR**	**8**

ACE RATING 713

AMIGA VERSION

Pretty graphics and a nice little tune make an attractive game. Not much depth, but fun nonetheless.

GRAPHICS	**8**	**IQ FACTOR**	**3**
AUDIO	**7**	**FUN FACTOR**	**8**

ACE RATING 713

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LAND OF LEGENDS

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Pay the shopkeeper 20 gold.
The shopkeeper says that he isn't
running a charity. The price is 30
gold.
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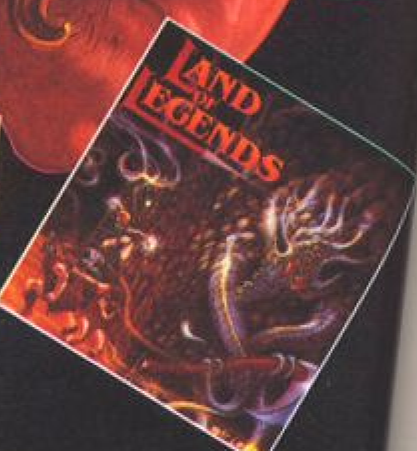
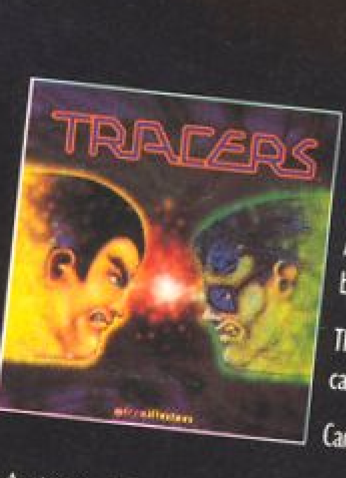
Amiga screen shot shown





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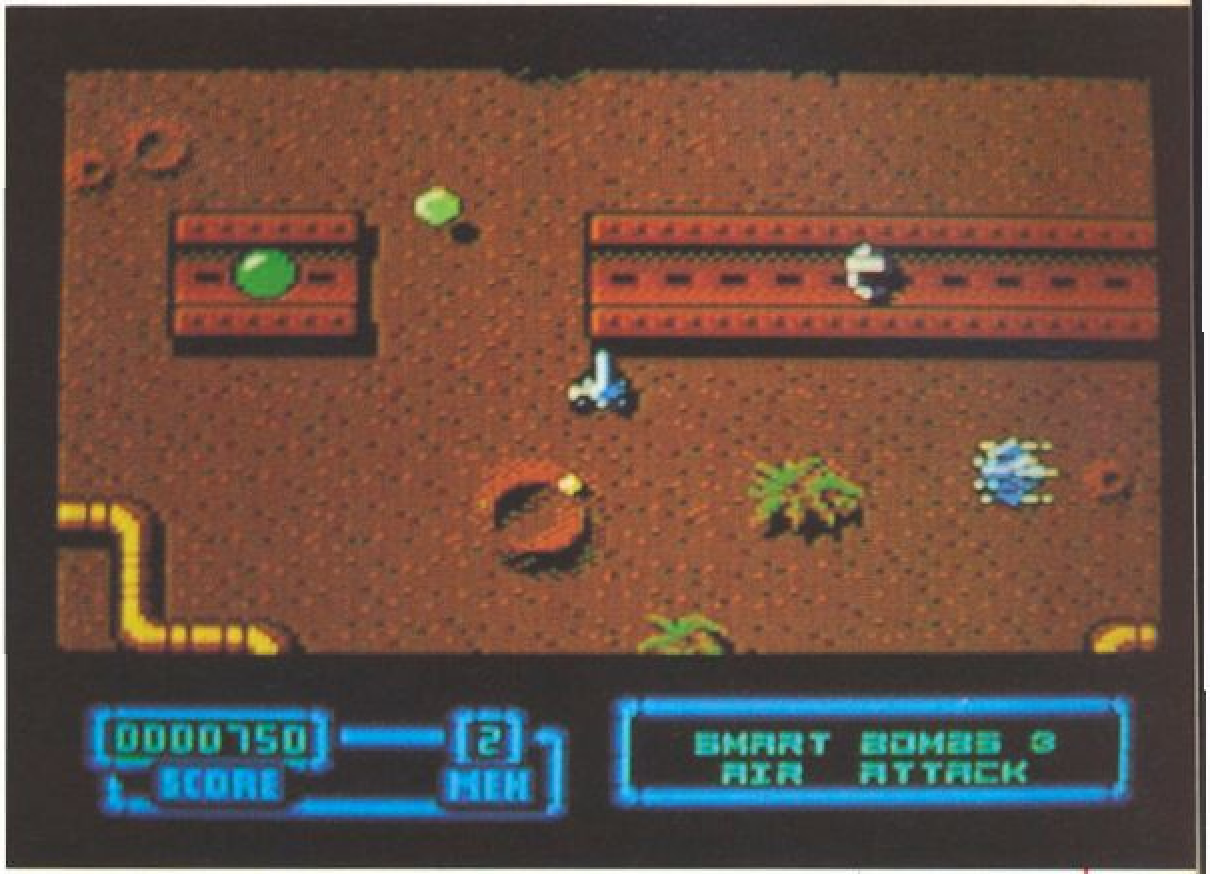


The Marauder is about to narrowly escape being bombed from the air. The plane has passed over and the yellow bomb has just missed. However, you're still in danger from the other two robots. Note also the green beacon which would jam your laser if shot.

MARAUDER

HEWSON go plundering

CAPTAIN Cobra drives the meanest, lowest-slung battlecar this side of the Dagenham. The flowery scenario prose relates a wondrous tale of lost jewels and windswept desert landscapes. Forget that, let's go do some blasting.

Vertically-scrolling shoot-em-ups are nothing new, but everybody loves a good one with loads of action. Hewson have been responsible for some of the best, so have they done it again?

The first thing to notice is that the scrolling is under your control, you aren't forced to go at the computers pace. It's useful because you really do need quick breathers in between the action.

The robot defences come in four main types: free roamers, emplacements, tracked and patterned. The free roamers generally tend to home in on you as soon as they appear. Like all the other defences they intermittently fire bullets that are very accurate if you don't shift yourself fast. Similar to the roamers are the patterned robots that, when triggered to appear, charge around the screen in a set pattern regardless of what you're up to. It's not just the bullets you have to worry about either – running into defences also proves fatal.

The robots on railway tracks are a cunning breed. They shuttle up and down loosing off fire and are much more awkward to hit than homing or static robots. The stationary robot emplacements tend to have higher rates of fire than the others, but at least you know they'll stay where they are.

A particularly nasty form of static defender are the missile firing turrets. These produce relatively slow-moving missiles that home in on you wherever you are on the screen. The missiles can be shot, the only problem is to get on the right line to do it in time – particularly if you're facing more than one turret.

If you get far enough through the defences the battlecar goes spinning off the top of the screen firing wildly and takes you to a new level. The background graphics change and, of course, the robots get nastier. They fire faster and appear in ever more unpleasant combinations. They also start taking several hits to destroy.

The programmers obviously thought they were making life too easy, and have added a cruel feature that will make you curse. If you spend too long without scrolling the screen up, a plane zips in from the side of the screen and drops a bomb at you. You can avoid it if you're fast but it means you can never relax completely.

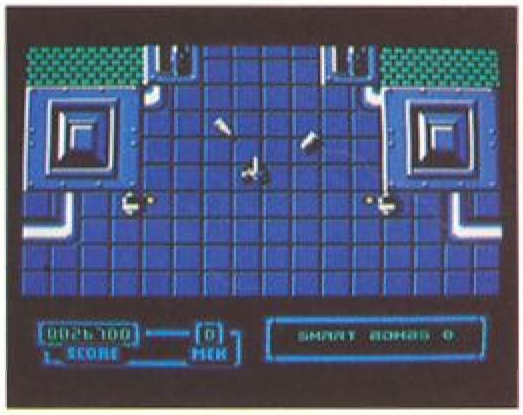
The most crucial element in ensuring survival is the use of defence beacons. These are spheres that flash through a range of colours, and depending on what colour they are when shot can either help or hurt. There are six colours: red gives a smart bomb, yellow a shield, cyan a life, blue reverses the controls, purple loses a life and green jams your laser. The shield, control reversal and jamming effects don't last for long, but it can be enough to get you through a tricky spot using the shield, or to kill you when suffering from the other two.

This is a classic game for those who like learning attack patterns. Every game you can get a bit further because you know what's coming and can act accordingly. Working out the flashing sequence of the beacons also comes with practice and can considerably prolong your life. There isn't anything original here, but it's an extremely slick shoot-em-up that gives instant pleasure and addiction, and has plenty of difficulty to keep you going.

● **Bob Wade**

RELEASE BOX

C64/128	£9.99cs, £14.99dk	OUT NOW
SPEC	£7.99cs, £12.99dk	IMMINENT
AMS	£9.99cs, £14.99dk	IMMINENT



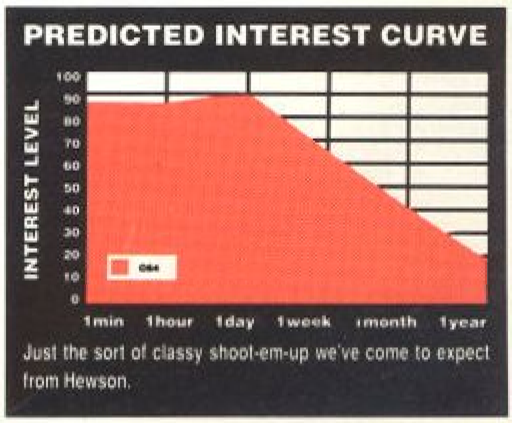
You're in deep trouble here. Missiles are homing in on you and there's a couple of free roamers closing in. No smart bombs left, so it looks like the party's over.

C64 VERSION

The different backgrounds are well designed, as are all the robot defences. Naturally it all scrolls smoothly. The music is excellent, but there's not much in the way of effects.

GRAPHICS	8	IQ FACTOR	2
AUDIO	8	FUN FACTOR	8

ACE RATING 791



Just the sort of classy shoot-em-up we've come to expect from Hewson.

PHANTASM

EXOCET's academic exercise

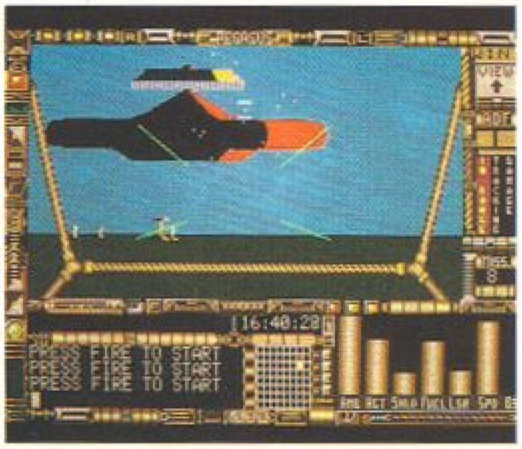
DEJA VU is what the French call it, that feeling that somehow, somewhere, you've seen it all before. Exocet's *Phantasm* certainly conjours up that feeling. Where you've seen this game before is in the form of CRL's brilliant *Academy*.

In *Phantasm* you're in command of the ultimate space skimmer – Pegasus – as you zoom around an alien moon looking for eight Re-constitutions situated at random on its surface. These Re-constitutions are able to reform enemy craft you destroy in their area – so watch it. Your mission is to destroy these nasty pieces of work and...and...well, that's it.

Right at the start you get to choose which sector of the moon you start in, and from then on its a case of exploring the solid 3D landscape and doing battle with the many alien vessels – flying saucers, tanks, ground-based fortresses and watchtowers, to name but a few. The easiest of the four levels is a kind of training mode where the viewscreen tells you what type of craft you're looking at. Other, higher, levels just tell you your kill total so far. A series of bars to the bottom right of the screen tells you your speed, fuel reserves, shield strength and so forth, while to the top right of the screen is a compass with automatic direction finder (returns you to your docking vehicle). The skimmer flies just like that in *Academy*, even down to the little rocking motion when you collide with another craft.

Basically, the similarities between *Phantasm* and *Academy* are too numerous to list. It would be quicker to list the differences – *Phantasm* offers only one mission, one skimmer and none of the gameplay. And at £19.95 it's not even budget.

● Rod Lawton



Pretty enough sprites, and nice lighting effects. Shame it's been done already.

RELEASE BOX

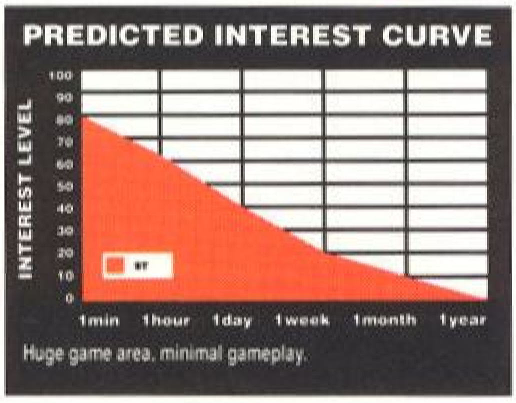
ATARI ST	£19.95dk	OUT NOW
AMIGA	£19.95dk	IMMINENT

ATARI ST VERSION

Graphics and sound are distinctly 8-bit stuff, not that *Academy* ever excelled in these departments anyway. Take away the latter's gameplay, though, and you're not left with much.

GRAPHICS	6	**IQ FACTOR**	3
AUDIO	5	**FUN FACTOR**	6

ACE RATING 404



Huge game area, minimal gameplay.

AAARGH!

Smashing down the MELBOURNE HOUSE

NEVER mind Aaargh! Yawn! would be more apt. The game's far too easy to beat and no matter how good the sound and graphics are, you're just not going to want to spend much time playing a game you know you can beat easily.

The plot's jolly enough – take control of either an oversized ogre or a dinosaur and smash your way through village after village searching for five Roc's eggs. You need to collect these before you get a stab at stealing the golden egg, hidden beneath a volcano. The eggs you need are usually concealed inside one of seven or so buildings in each scene. You don't know which contains the egg (that's if any of them do) until you've bashed them to the ground. You shouldn't be disheartened if a building fails to reveal an egg though because it will probably reveal something that's almost as important – food. Dinosaurs and ogres need their sustenance and what could be better than a huge hamburger or a whopping slice of pizza? Especially when your monster only has a limited amount of stamina – the constant barrage from the villagers trying to fire their weapons at you, and the hornets that will insist on crashing into you, take their toll. Attack is the best form of defence here and it's easy enough to line your monster up with the villagers' cannon and bash it into oblivion. Hornets can be disposed of in similar fashion. Any spare moments are best spent chasing and eating as many villagers as you can catch.

Having found yourself an egg you then have to fight the other monster to keep it. Extremely difficult until you discover the knack that makes it a doddle.

Collect the five Roc's eggs and you then have to make your way along a short path (removing any obstacles on the way) to the golden egg. Collect this and you can start the whole process over again. *Aaargh!*'s nice-looking, but you'll only play it for a short time before you become bored.

● Andy Smith

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AMIGA	£19.99dk	OUT NOW
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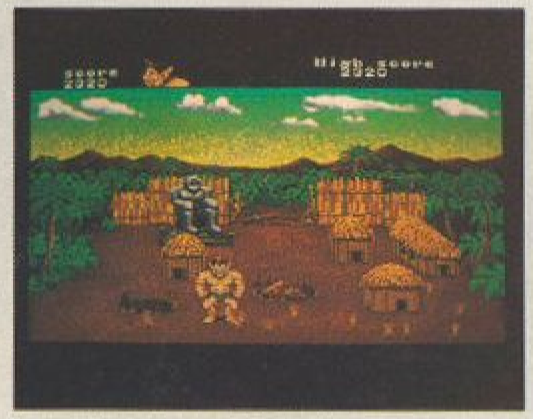


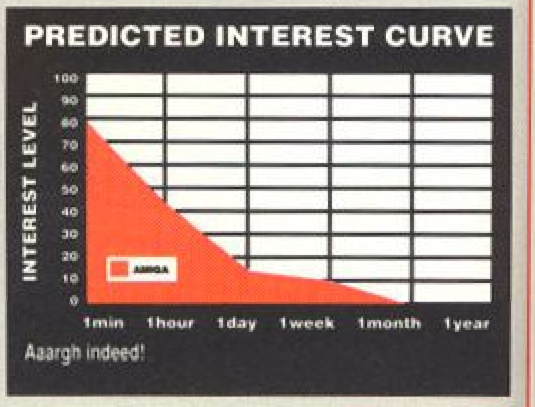
Bash those buildings, eat those people...

AMIGA VERSION

Good graphics, atmospheric sound and good gameplay but not enough challenge to generate the excitement that will keep you playing.

GRAPHICS	8	**IQ FACTOR**	1
AUDIO	7	**FUN FACTOR**	6

ACE RATING 261



Aargh indeed!

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SARGON III

LOGOTRON's brain-mangler

FAST reflexes and a quick trigger finger will do you no good here. This chess program from Logotron would tax the old grey cells of Kasparov himself. Well, maybe not, but even on its easiest level, *Sargon III* is a toughie. In a play-off against the established *Chessmaster 2000*, no clear winner emerges, meaning that the newcomer is certainly no pushover. The game comes with a comprehensive manual which even teaches you the moves of the pieces. The only problem is that if you need to know *that* it's going to take you a long, long time to beat the computer.

So *Sargon III* plays well enough, but what does it look like? The news here is not so good I'm afraid. The 2D-only display is basic, to say the least, and up against the several more polished chess programs around it looks (even if it isn't) extremely amateur. This isn't one for impressing the neighbours, in other words.

RELEASE BOX		
AMIGA	£24.95dk	OUT NOW
ATARI ST	£24.95dk	IMMINENT
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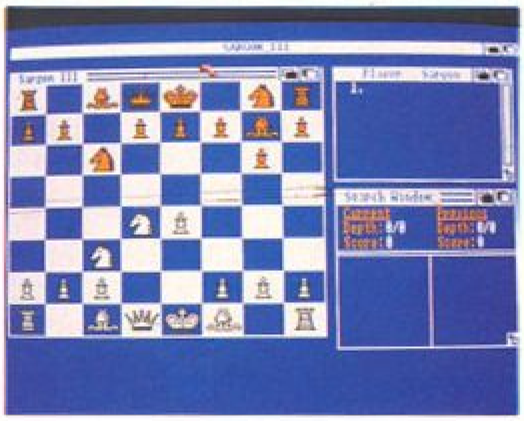
Sargon III won the PC World Magazine Microcomputer Chess Tournament, apparently, and has beaten a Chess Master rated 2209 – but for the average amateur, such things are academic. The fact is that most modern chess programs are quite strong enough for the average user. What separates them is really attractiveness, ease of use and versatility. *Sargon* is easy enough to use, as versatile as any – but in terms of visual appeal is somewhere back in the Dark Ages.

● Rod Lawton



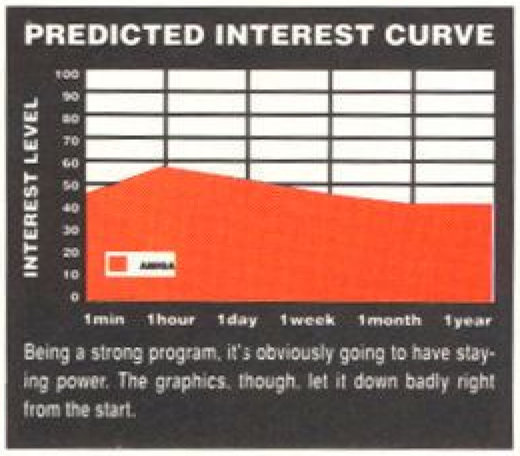
You're playing white and holding your own – at least for the moment.

AMIGA VERSION

An awful waste of the Amiga's graphics potential, with some indifferent voice synthesis thrown in. Otherwise, thoroughly competent.

GRAPHICS	1	**IQ FACTOR**	10
AUDIO	6	**FUN FACTOR**	6

ACE RATING 553



Being a strong program, it's obviously going to have staying power. The graphics, though, let it down badly right from the start.

PETER BEARDSLEY'S INTERNATIONAL FOOTBALL

GRANDSLAM slip up

8-BIT micro owners have got a marvellous football simulation in the shape of Ocean's *Matchday II*, but it's not only 8-bitters who enjoy a good game of footy on their computers. Microdeal brought 16-bit owners *International Soccer* – not as good as it might have been – and now Grandslam are hoping to tempt us with a football sim endorsed by one of England's most talented players.

The game has a European flavour in that your team can be chosen from a list of some of the best (and worst) teams in Europe. You then find yourself in one of two groups of four, where each team then plays every other in their own group and the top two go through to the semi-finals.

The format for the game follows the usual pattern, i.e. you control the footballer in the best position to reach the ball. You control the strength of a kick during play by holding the fire button on the joystick while a meter climbs up the side of the screen.

The game looks good enough, but the poor animation of sprites and ball is disappointing. It can also be tough to see just who you're controlling once you've got several players milling about the ball. Probably the biggest thing to let the game down, though, is the overall control. This – and the fact that it won't take long to win the tournament once you've familiarised yourself with the game – makes for a sim stuck well and truly at the bottom of the second division.

● Andy Smith

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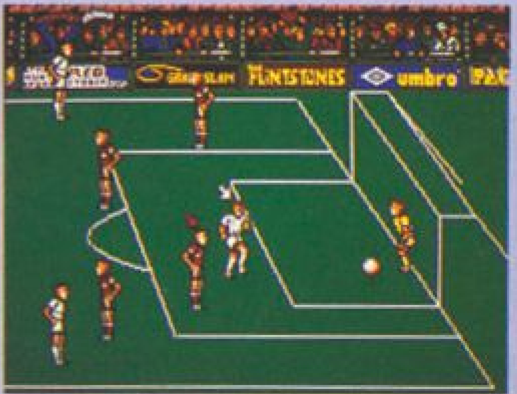
ATARI ST VERSION

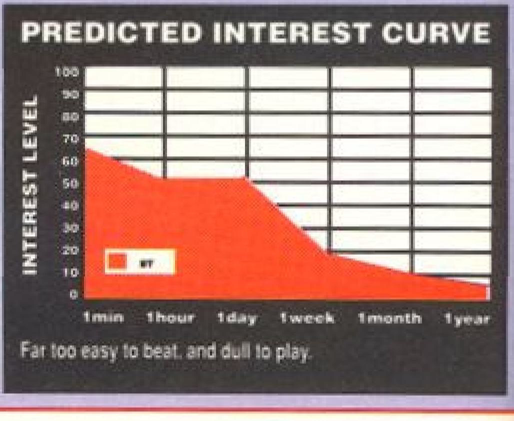
The game features music and sound effects, and it's easy to switch between the two. You can also change the duration of the matches during the tournament from 5 to 20 minutes. The game lets itself down with a poor method of selecting kick strength and unconvincing animation.

GRAPHICS	6	**IQ FACTOR**	2
AUDIO	6	**FUN FACTOR**	6

ACE RATING 392



Perhaps if Grandslam had spent less time on the advertising hoardings and more time on sprite animation, the game would have been better.



Far too easy to beat, and dull to play.

THE SENTINEL

UPDATE SPECIAL

AMIGA ● Firebird £19.99dk

Mike Singleton pretty much says it all on pages 36-37, but for the record we thoroughly agree here at ACE: *The Sentinel* is one of the cleverest, prettiest, meanest games ever. The genius of the original concept plus some excellent conversion work to the Amiga make this an essential purchase.

The game's all about energy, height and visibility. Over the mountains, valleys and checkerboard plains of 10,000 different landscapes, you're caught up in an epic struggle to get above your opponents. It's dangerous work, absorbing trees and boulders to raise your energy level while avoiding the gaze of the rotating Sentinel and his assistants, the Sentries. With fast thinking and a good sense of direction you can hop between fields of vision, gain height and sneak up on the rotters from behind. Hesitate or get disorientated on the other hand, and you'll be absorbed by the *Sentinel's* lethal stare.

The thing that really makes the gameplay riveting is its unique combination of freedom and terror. The game just gives you the basic tools for the job, leaving you to tackle each landscape's problems any way you see fit. The wealth of choices can easily overwhelm you, especially with the Sentinel and a whole bunch of Sentries turning your way - and indecision kills!

Once you're hooked (and you will be), you'll find the game's password system a lifesaver. Stop playing whenever you like, and a 10-digit code will let you start on the same landscape next time. Just as well really: 10,000 of the things would take you a while to get through!

Andy Wilton

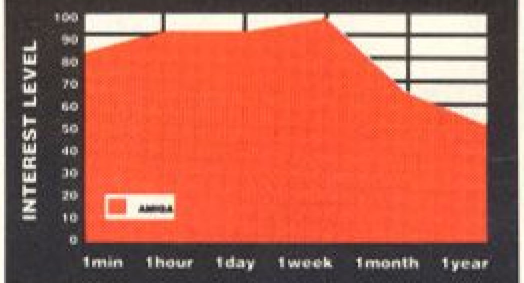
AMIGA VERSION

Colourful, fast and detailed, the solid 3D graphics here are a joy to behold. The soundtrack's great too, with a running background tune throughout and great bursts of theme music to mark changes of scene.

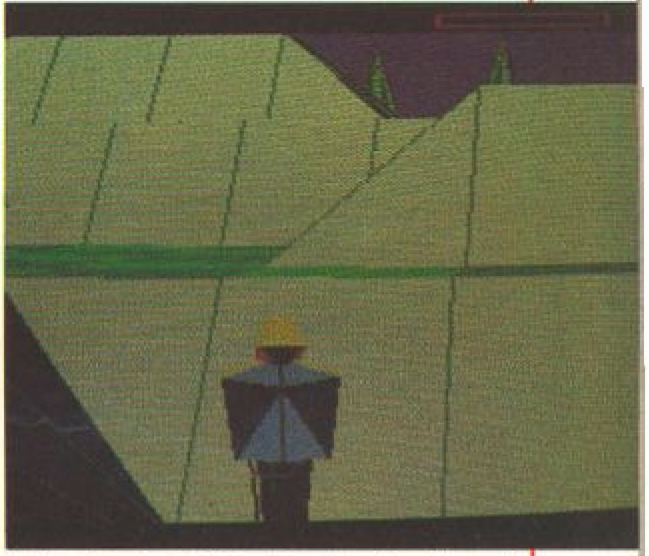
GRAPHICS	8	IQ FACTOR	9
AUDIO	6	FUN FACTOR	6

ACE RATING 963

PREDICTED INTEREST CURVE



You'll still be hooked this time next year!



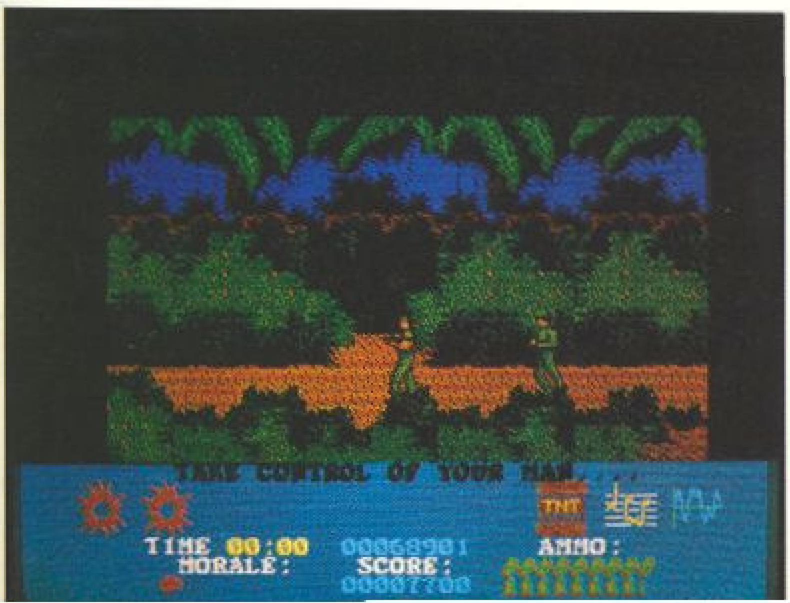
You've only got seconds to make your next decision, and there are dozens of options open to you - but don't panic!

PLATOON

ATARI ST ● Ocean £19.99dk ● ACE RATING 668
C64 version reviewed Issue 7 - ACE Rating 801
Spectrum version reviewed Issue 7 - ACE Rating 530
Amstrad version reviewed Issue 8 - ACE Rating 654

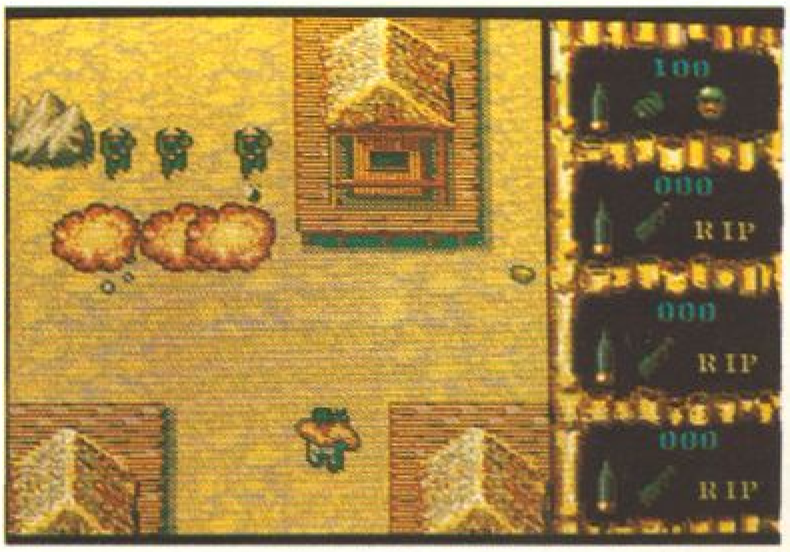
If the first casualty of war is innocence, then the first casualty of conversion has to be gameplay. The difficulty tuning was pretty touch-and-go on the 8-bit versions of this one, but on the ST things are absolutely clear-cut. A simple tale of jungle warfare becomes simply unplayable: invisible assailants shoot you in the back, VCs leap on you from the forest canopy and booby-traps face you with impossible situations. Tough problems are always welcome, but inevitable deaths like these are just silly. Controls are good though, even if the graphics aren't anything to write home about.

● Andy Wilton



LEATHERNECK

AMIGA ● Microdeal £19.95dk ● ACE RATING 897
Atari ST version reviewed Issue 10 - ACE Rating 897

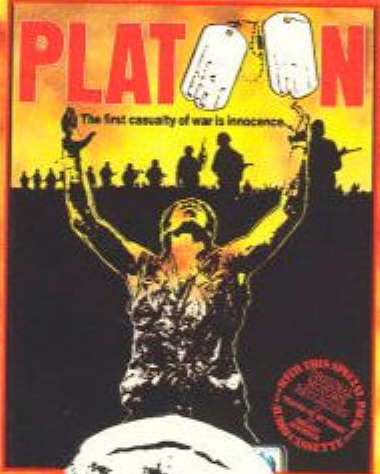


You want violence, you got it! Heavy duty violence complete with guns, grenades and mortars - that's what programmer Steve Bak's just converted for the Amiga, and boy is it fun! The game's a vertical scroller in the *Commando* or *Ikari Warriors* mould, but the graphics, sound effects and finely-tuned gameplay lift it into the ranks of the really classy. Leap out of the landing craft with anything up to three buddies, machine-gun your way up the beach and then hand-grenade a gory path through the jungle and on into the village. Beautiful backgrounds, horrible screams and tacky box artwork all add up to a tasteless, mindless, wonderful piece of software. Go for it!

● Andy Wilton

COMBAT SCHOOL

ACADEMY RIVALRY



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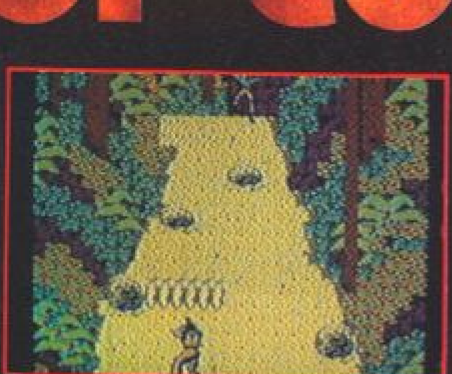

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GRYZOR

A superb conversion for your home micro of Konami's arcade blockbuster. Featuring all the game-play of the arcade original, Gryzor takes you into a thrilling alien world of force fields, fanatical guerillas and strange enemy defence systems – but you have the fire-power and maybe, with a 'little' skill, grit and split second timing, you can infiltrate the aliens' headquarters. Play Gryzor once and you'll be hooked!

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T, IT ONLY FOR HEROES

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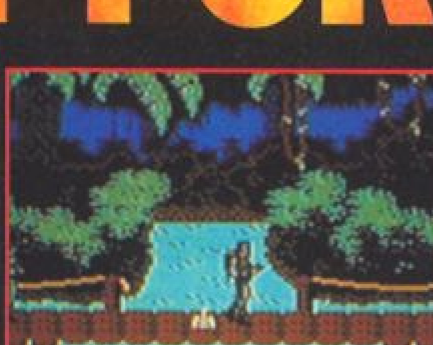

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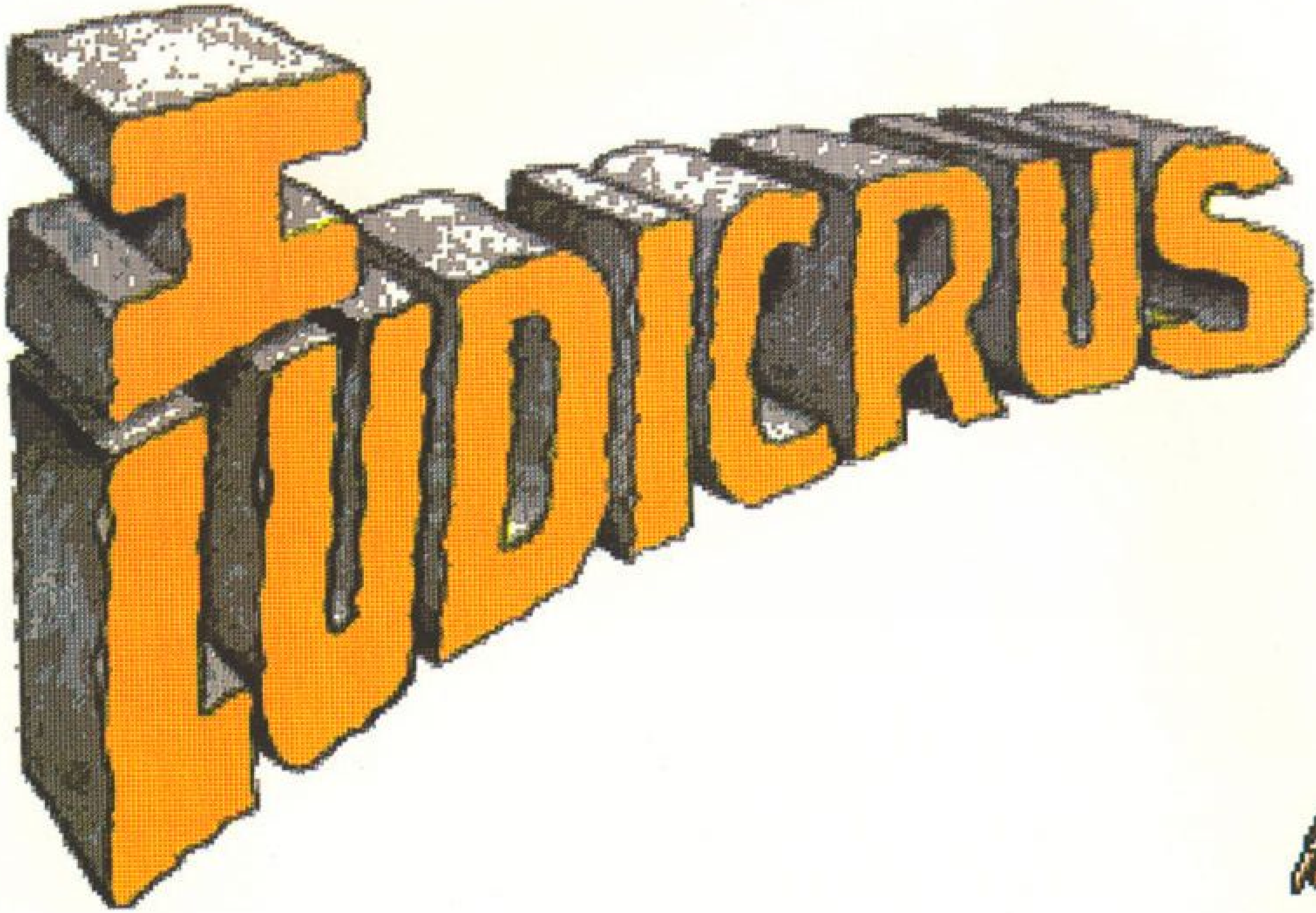

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AMIGA - ATARI ST

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Is *Buggy Boy* as good on the Amiga as the 64? Will *Charlie Chaplin* rediscover his sense of humour on the Spectrum? Are the *Lords of Conquest* just as cut-throat and power mad on the ST? Find out all this and more in the latest instalment of Updates.

AMIGA

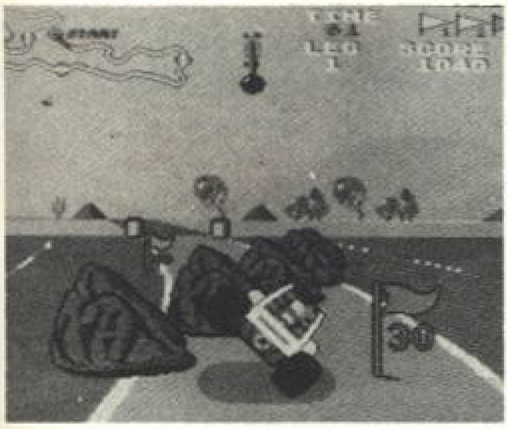
BUGGY BOY

Elite £24.99dk

C64 version reviewed issue 4 - Ace Rating 906

The graphics show off the Amiga's capabilities nicely with lots of smooth, fast action. The buggy is very responsive, accelerates quickly and is animated well. Its initial appeal is high and it's great fun to play, but there are two problems that drag it down a little. It's a bit too easy to beat, and with the recent spate of *Out Run* types games it has aged quite rapidly as a game format. Still a lot of fun but it won't last that long.

● ACE RATING 833



RETURN TO GENESIS

Firebird £19.95dk

Atari ST version reviewed issue 9 - Ace Rating 624

This horizontal scrolling shoot-em-up owes much to *Uridium* for its 'inspiration'. On the ST it was a competent blast that lacked any originality. Here the story is the same I'm afraid. It's got excellent graphics, some digitised speech and lots of speedy action. The strange rebounding action is still present to make control awkward. Another average shoot-em-up to join the hordes of others.

● ACE RATING 624

BLACK LAMP

Amiga £19.95dk

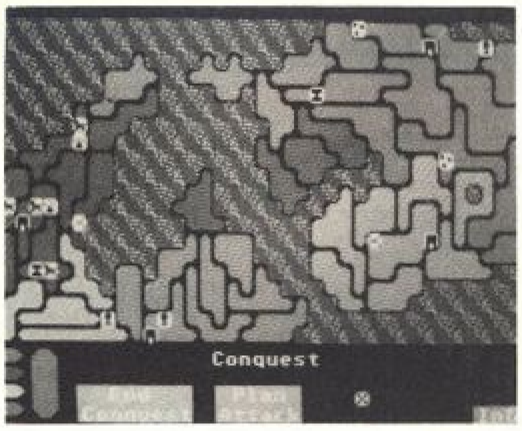
ST version reviewed issue 6 - ACE rating 813

Spectrum version reviewed issue 8 - ACE rating 612

This pretty, musically pleasant little arcade adventure gains quite a bit on its way over from the ST, but not in the one respect it was so desperately lacking in, namely gameplay. Running round flip-screen castles and scrolling outdoor scenes makes a nice start, but when it's just about all there is, you're entitled to feel disappointed. *Sorcery* packed a good deal more game into a far smaller map, and that one came out years ago.

● ACE RATING 825

ATARI ST



LORDS OF CONQUEST

Atari ST £19.95 dk

PC Version reviewed issue 7 - ACE rating 835

The graphics may not be state-of-the-art but they're adequate and certainly won't spoil your enjoyment of this great piece of strategy software. You and up to three others can play against each other and try to conquer whichever game map you happen to be playing at the time. If you can't trust your friends (and once you start playing you won't be able to!) you can always try your hand at playing the computer - which can be made to play at any one of three levels. Good stuff that you'll come back to whenever you feel the urge.

● ACE RATING 848

C64

DARK CASTLE

C64 £8.99cs, £12.99dk

Amiga version reviewed issue 7 - ACE rating 693

Things haven't improved with the arrival of the C64 version. Basically Brian, it's a very old-style platform game in which the hero has to make his way through several screens before confronting the dastardly Black Knight. Avoid the rats, bats and guards and you're in with a chance but that's a lot easier said than done. Dull graphics and animation do little to fire your enthusiasm and you'll probably get tired of playing the game after a relatively short time.

● ACE RATING 580

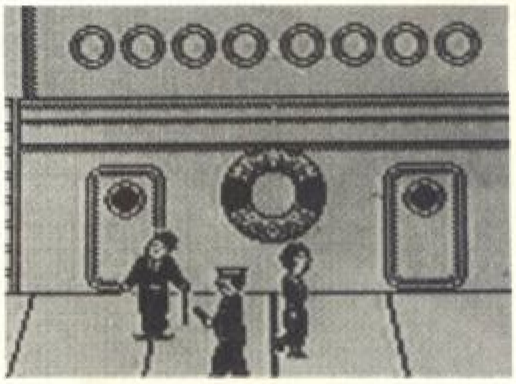
SPECTRUM

CHARLIE CHAPLIN

US Gold £8.99cs, £12.99dk

Amstrad version reviewed issue 10 - Ace Rating 392

The game in which that great comedian puts his penguin-walk into action to make several films. You've got to organise the shoots, control Charlie and edit the film. The final aim is to make a box office hit. The mono graphics are more suited to the Spectrum, but unfortunately the gameplay hasn't changed. It's still just a matter of wandering around trying to hit the other characters as often as possible. Hardly a true picture of the great man's talents. Ah well, back to the storyboard.



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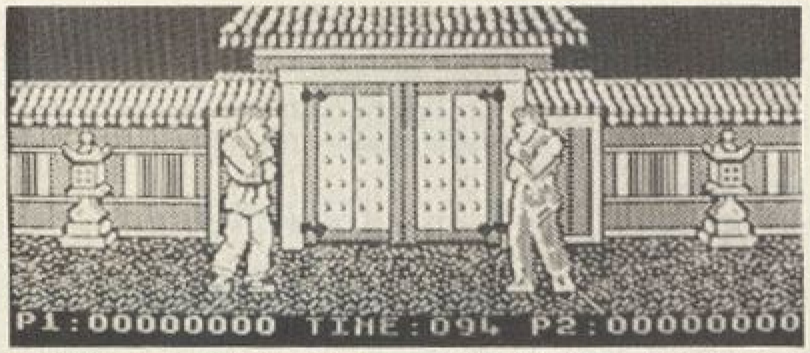

ARCADE fans may know this as the game that had pads you could actually hit. Sadly they don't make them that way now, and they certainly can't do that for the micro versions. Which makes this just another standard beat-em-up, that brings nothing new to the genre.

● Bob Wade

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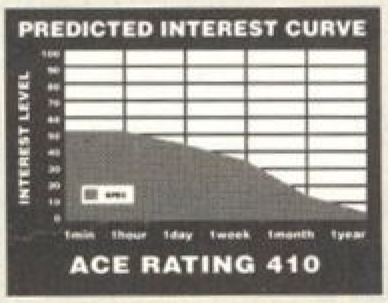
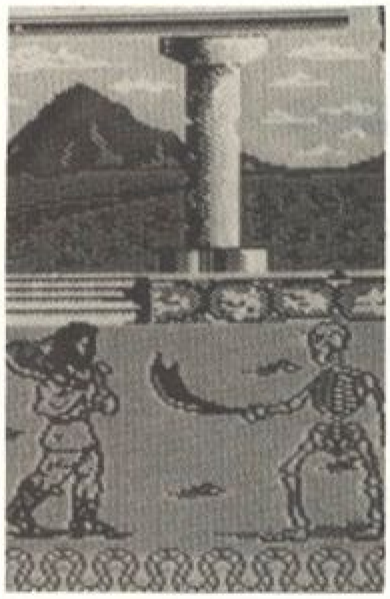


ACE RATING 410

HERCULES

GREMLIN'S mythical game



SUBTITLED 'Slayer of the Damned'. You play the muscle-bound hero of Greek mythology and you've got 12 labours to complete. Well, you've actually got to hit (with your club) 12 icons that appear sequentially on-screen, whilst trying to survive being attacked by a skeleton. The graphics and animation are poor, the gameplay's just as bad and to cap it all it's boring. *Hercules* is not one of Gremlins better games.

● Andy Smith

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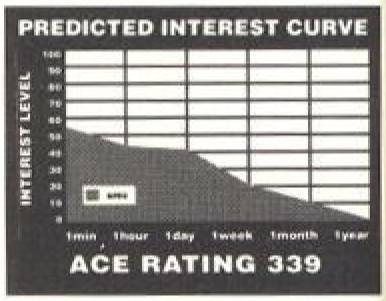

ACE RATING 339

VIXEN

The gorgeous, pouting MARTECH?

BULLWHIP time again folks! Indy Jones it seems is not alone in favouring tightly-bound strips of leather when it comes to dealing with nasties – dinosaurs in this case. Dinousaurs who have for eons terrorised the planet Granath. But now comes Vixen, raised from infancy by a pack of foxes. She now has the ability to change into a fox at will.

This sideways scrolling whip-em-up's got nothing original to offer and it's doubtful you'll be playing it in a year's time.

● Andy Smith

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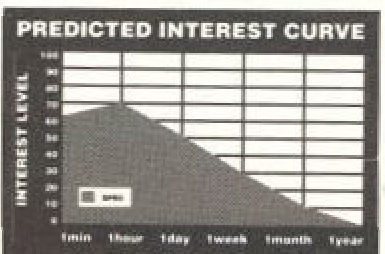
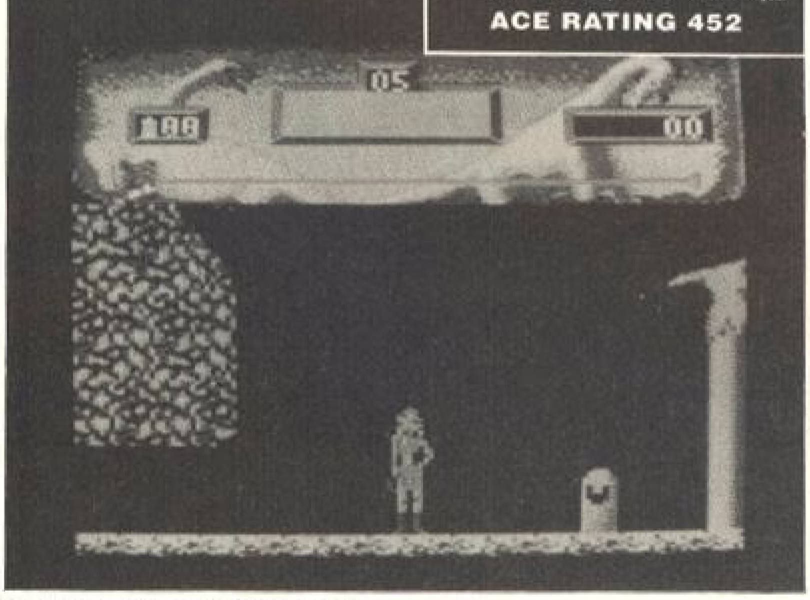
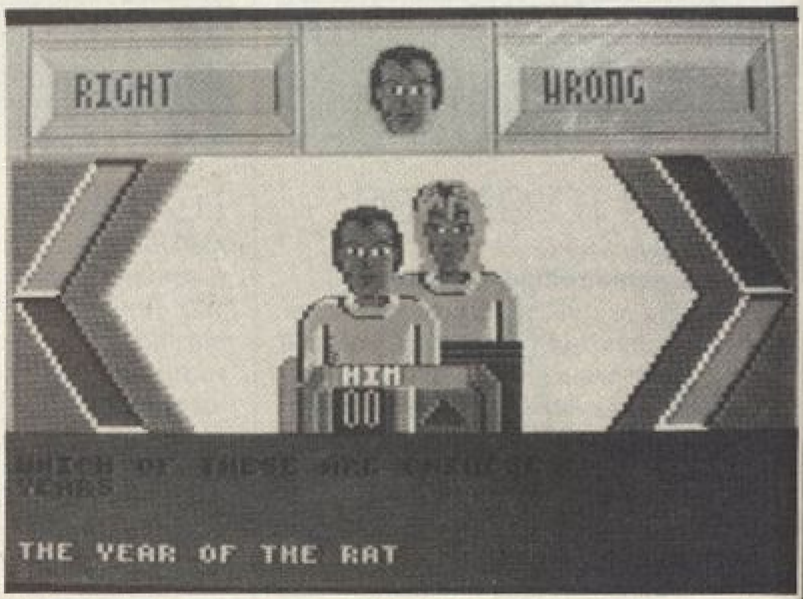


ACE RATING 452



EVERY SECOND COUNTS

Not a lot from TV GAMES



QUIZ games don't have a great reputation as computer games, and this version of the Paul Daniels' quiz show doesn't change matters. Up to three couples can take part in the quiz which closely mirrors the TV show. Basically it's just more general knowledge and trivia questions, the like of which we've seen umpteen times before.

● Bob Wade

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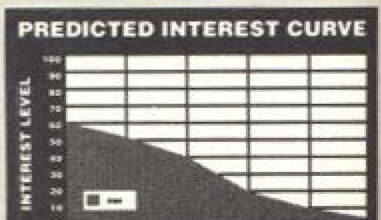

ACE RATING 363

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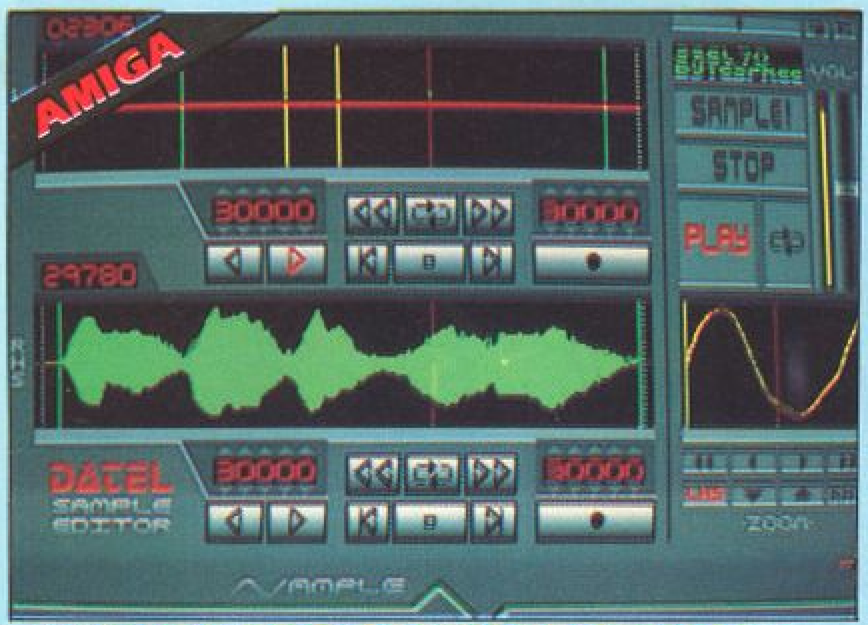
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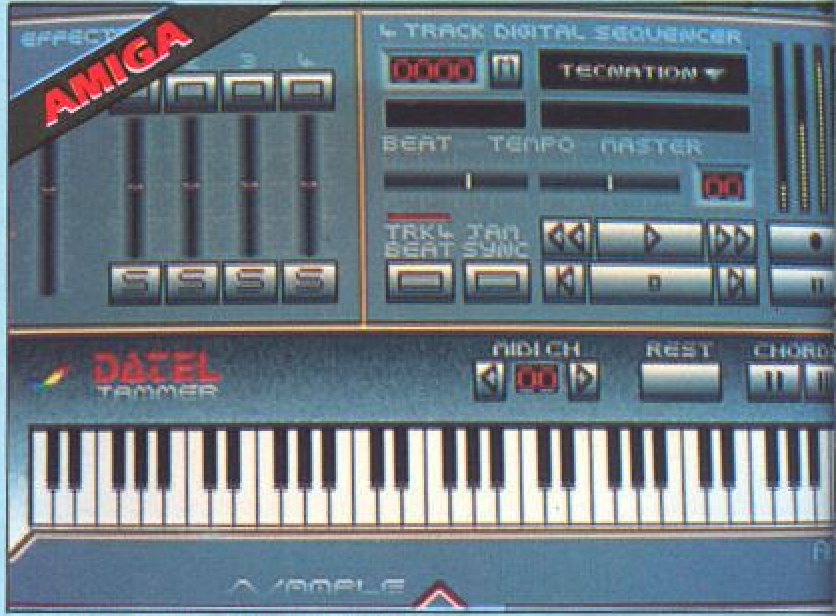
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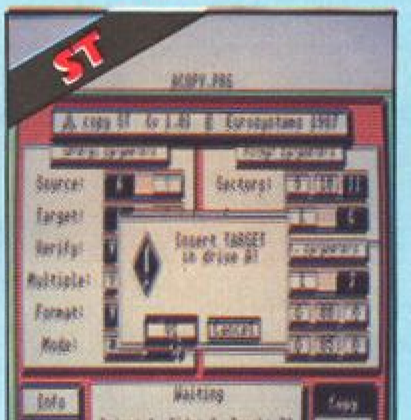
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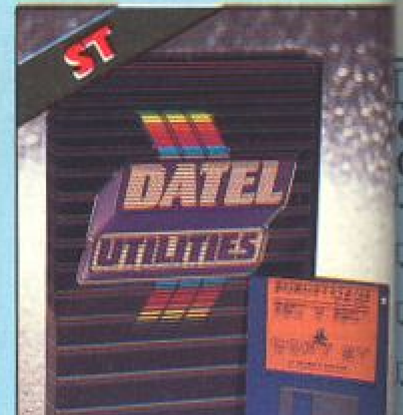
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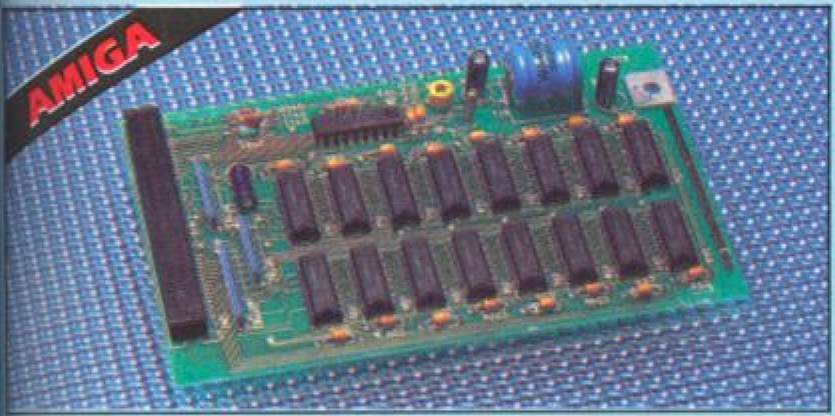

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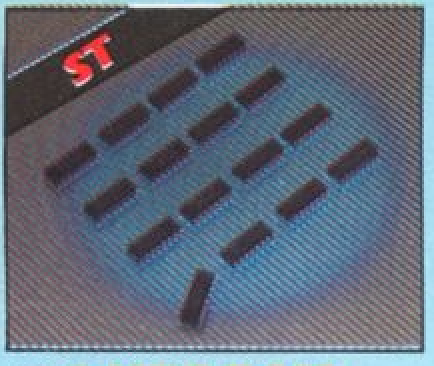

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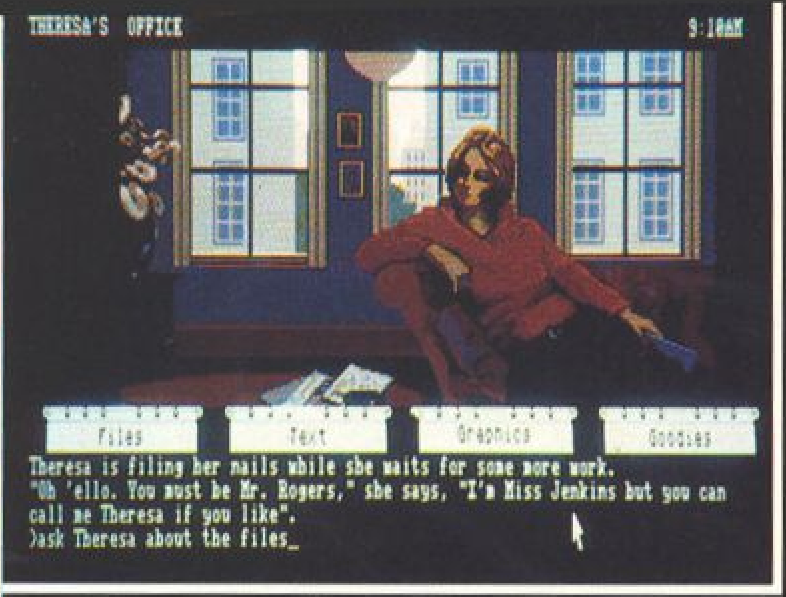

THERESA'S OFFICE
9:10AM
Files
Text
Graphics
Goodies

Theresa is filing her nails while she waits for some more work.
"Oh 'ello. You must be Mr. Rogers," she says, "I'm Miss Jenkins but you can call me Theresa if you like".
>ask Theresa about the files_

CORRUPTION

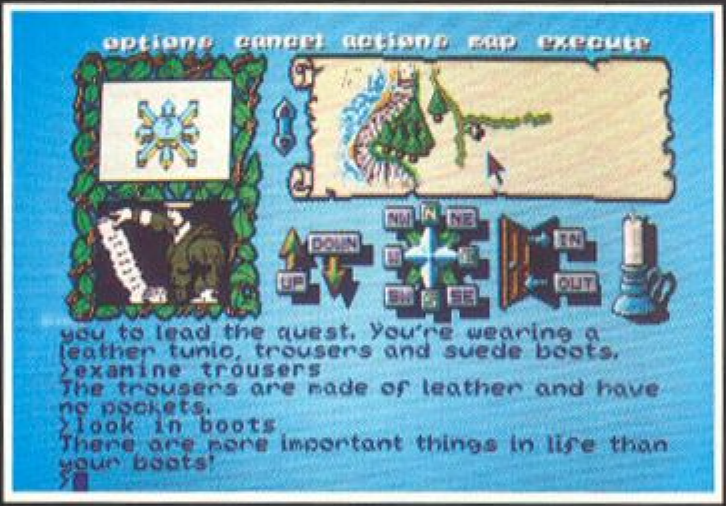
Magnetic Scrolls' latest game shows a whole new approach to adventuring. Is it the beginning of a brave new world? The definitive review awaits you...

OPPOSITE ▸

LEGEND OF THE SWORD

Rainbird AGAIN! Not content with Magnetic Scrolls, they've also turned out this radical auto-play adventure with a control panel that really puts you in command. Is this the business, or is it a bin-liner?

PAGE 74 ▸


options cancel actions map execute
DOWN
UP
NW
N
NE
SW
S
SE
IN
OUT

you to lead the quest. You're wearing a leather tunic, trousers and suede boots.
>examine trousers
The trousers are made of leather and have no pockets.
>look in boots
There are more important things in life than your boots!
>

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DUNGEONS AND DRAGONS

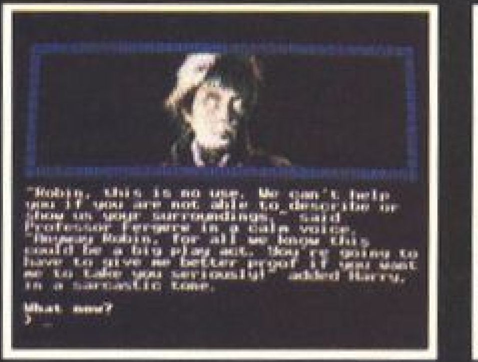
Can this long-awaited role-playing license live up to its £1,000,000 price tag? And where to now for role-playing software?

PAGE 74 ▸

MINDFIGHTER

Abstract Concepts long awaited game set in post-Holocaust Southampton hits the shelves. Will the copies stay there, or should you rush out and grab them?

PAGE 75 ▸



"Robin, this is no use. We can't help you if you are not able to describe or show us your surroundings," said Professor Ferrers in a calm voice.
"Anyway Robin, for all we know this could be a big play act. You're going to have to give me better proof if you want me to take you seriously!" added Harry, in a sarcastic tone.

What now?
>_

BARDS TALE RIDES AGAIN

No sooner is Bards Tale 2 out of the closet, than BT3 leaps upon us. Not only that, but the BT programming team are turning their talents to other uses.

PAGE 77 ▸

Balrog-beating...
Spell casting...
Staff waving...
Rod toting..
Text typing...
Wizard wasting...
Treasure grabbing...
No-one does it better than The Pilgrim – and believe us, in this month's column he really surpasses himself. Check out the menu for this month's feast...

■

CRACKING THE PAWN... AND MORE

Throughout the section you'll find more of the Pilgrim's Players' Guide to *The Pawn*, plus a host of playing tips in No Problem!, Pat's Patch for budding adventure writers, news, gossip, and other adventuring tidbits...

CORRUPTION

RAINBIRD/MAGNETIC SCROLLS' inside deal

920
ACE RATED

AFTER toying around with the obscure (*The Pawn*), the traditional (*Guild of Thieves*), and the whimsical (*Jinxter*) Magnetic Scrolls have finally managed to come out with a game that combines powerful programming, wry humour, and a compelling plot all at once. No doubt about it, *Corruption* is their best yet.

Some won't like it, however. This tale of insider dealing, infidelity and crooked business deals is unlikely to suit people who prefer to wander around picking up treasure. It does have other compensations, however...

First, you get a lot of bumph for your money, including a cassette tape that features prominently in the plot, a lot of documentation (including a personal organiser section that gives info on your movements), and some amusing guides to London eating emporiums, casino etiquette, and so on.

Second, the parser is powerful and flexible. It can understand possession, so will accept PUT THE CONTENTS OF THE ENVELOPE IN THE POCKET, or OPEN THE DESK'S TOP DRAWER. Combine this with a comprehensive use of pronouns, abbreviations and flexible programming, and you have a parser that's both friendly and fast in operation.

Thirdly, you get the usual excellent graphics which, in this case, are certainly more atmospheric than before and every bit as technically accomplished. Much of the gameplay revolves around interaction with other people and it helps if you can see them!

Finally, of course, there's the plot. Recently made a partner in the stockbroking firm of Rogers & Rogers, you soon realise that all is not as it seems. If you don't, you'll find yourself arrested by mid-day and found guilty of insider dealing (i.e. buying shares in a company about whose financial performance you have privileged information).

The game starts at 9.00a.m. and the clock advances by 1 minute with every stab at the RETRN key, so you're well advised to make maximum use of multiple commands to save time. Gameplay consists of finding and examining objects together with locating other characters whom you can question using ASK person ABOUT subject or inform using TELL..ABOUT... Your primary objective is to put yourself in the clear, your secondary object is to get your revenge.

Characters move about the map in certain predetermined ways, so time not only limits gameplay but also changes it. In a normal game you map space, in this game you map time as well, taking note of when certain

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PILGRIM

people perform certain actions for future reference. In this manner the game is very like Infocom's *Suspect* – even down to the level of particular actions: in both games, there is someone who hides documents in a car in the garage.

Corruption is great fun, will take quite a while to solve, and should please everyone fed up with more traditional adventure subjects. Its only weakness is that the characters are all stereotypes, from the dumb blond to the macho businessman, and leave one wondering whether in eradicating whimsy from their games Magnetic Scrolls haven't gone a little too far in the opposite direction.

LANDSCAPE	**93**	**SYSTEM**	**92**
CHALLENGE	**91**	**ENCOUNTERS**	**95**
ACE RATING 920			

LEGEND OF THE SWORD

RAINBIRD'S pretty little number

HMMMM... this is a hodge-podge, make no mistake.

Legend of the Sword combines a very well-designed user interface with a variety of puzzling and wandering that varies from the outrageously unoriginal to the strikingly different, with not a little frustration scattered along the way.

The screen (in full colour on page 72) is divided into four main sections. Top right is a map display with an attractive overhead representation of the paths around you and features such as trees, buildings, and tunnel entrances.

Top left are two small windows which keep changing during play, loading in simple pictures of your companions, surroundings and other objects when relevant. In this respect the display is slightly similar to Ocean's *The Never Ending Story*.

In the centre of the screen are movement icons you 'click' on. An icon will illuminate if movement in that direction is possible. On the bottom half of the screen you have the traditional text window where you can enter commands and read responses, location descriptions, and so on.

LEGEND OF THE SWORD
RAINBIRD

In addition, there are a series of drop down menu labels across the top of the screen which allow you to toggle between the map and a vocabulary display as well as select certain system commands and other actions.

Despite the number of different elements on the screen, it's very colourfully presented and never seems cluttered. You play the game like any normal adventure, except that many commands can be entered via joystick/mouse and vocabulary tables or icons. Clicking on the map makes it take up the entire screen – useful for getting your bearings before proceeding.

As you move about the map window scrolls very prettily, bringing new landscape into view. The whole impression is one of smooth, competent programming and makes the gameplay both smooth, simple, and satisfying.

When it comes to the actual tasks involved, however, the story changes slightly. With your five companions you must locate an enchanted sword and shield with which to destroy the evil wizard Suzar. The bulk of the action consists of exploration, locating items, and solving puzzles. Most of these are the traditional 'correct-use-of-found-object' type – it doesn't mean they're easy but isn't exactly a thrill if you've been solving such problems for the last five years.

Locations feature the usual dark interiors, tunnels, woodsmen's sheds and torture chambers, together with vast areas of open country and forest. The game is divided into several discreet sections which require passwords and/or special objects to enter and in this respect is, again, highly traditional.

Legend of the Sword is a beautiful looking game, but the pretty face conceals a rather second-rate traditional adventure. It's not that easy to solve, however, and I suspect that beauty (as always) will sell.

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LANDSCAPE	**75**	**SYSTEM**	**92**
CHALLENGE	**79**	**ENCOUNTERS**	**65**
ACE RATING 815			

MINDFIGHTER

An ABSTRACT CONCEPT from ACTIVISION

FERGUS McNeill, the man who brought you *Delta 4*, *The Boggit* and (soon) *Smirking Horror* is a collaborator in this latest venture from Abstract Concepts, a new adventure design house run by Anna Popkess. *Mindfighter* is the first game from the label, previously previewed by the Pilgrim and now on general release.

The game runs under a new adventure authoring system called SWAN (apparently short for System Without A Name). Most large adventure houses use their own systems, but until recently writers like Fergus and Anna have relied on clever programming of more widely available utilities such as *The Quill*. Having their own in-house programming system is a big step forward.

However, the small print reveals that SWAN is actually produced by, amongst others, Tim Gilberts of Gilsoft/Quill fame. This explains why the new system is something of a three steps forward, one step back affair – but more of that in a minute...

The game concerns a psychic child, Robin, who has somehow materialised in a post-holocaust Southampton where life is made even more miserable by Chinese militia. You have to find out what's going on, return to the present day, and prevent the disaster from taking place. At least I THINK that's what you're supposed to do! The game packaging doesn't help much, preferring to gloat over the horror of your situation.

This vagueness, plus other quirks, induces a good deal of frustration. The landscape is extremely difficult to map, with seemingly illogical geographical relationships between locations.

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NO PROBLEM!

Be grateful! This month's hot tips come from: Mark Coleman, Russell Wallace, and The Pilg himself. Join the exclusive club by sending in your own tips for others to No Problem!, 4 Queen Street, Bath, BA1 1EJ.

SUBSUNK

Examine holster to find bullet, then load gun. Fire the gun in the locker room.

Pick the lock on the cabinet with the paperclip found in the captain's drawer.

To gointo the dark black hole, tuype ENTER HOLE.

THE UNINVITED

Hack at the left hand chair in the lounge to get a key. Use it to open the cabinet in the master bedroom.

Scare spectre with spider.

TRINITY

To survive in Earth orbit you must find a round air-tight object in the fantasy land.

The snake can be distracted by feeding but it prefers live food.

The roadrunner will wake the dog, but if you drop the crumbs there it'll take some time to eat them first.

BEYOND ZORK

Open the chest from the lighthouse in front of the monkey grinder, but first ask him to open the door to the club.

Open the same chest in front of the Unicorn, then use levitation to get it out of the stable. This will earn you compassion.

One of the answers to the riddles is Lightning, the other is Youth.

The parser features TAKE ALL...EXCEPT as well as RAM SAVE and LOAD, IT, and OOPS but still retains certain archaic features. In particular, it will say THAT WASNT POSSIBLE when what it really means is I DONT UNDERSTAND which can be very misleading when trying to work out the solution to a puzzle. Even when you completely flummox it, and it admits I CANT UNDERSTAND, it doesn't say which word it's having difficulty with. It seems a long time since I've had to make these criticisms about the parser of a premium-priced product.

Similarly awkward is the method of conversation with other interactive characters – you still have to SAY TO person 'MESSAGE', rather than just NAME, MESSAGE. Other rough edges include occasional inappropriate responses as in:

>FILL JERRY CAN WITH WATER
ROBIN FILLS THE WATER.

...after which episode I found I was carrying WATER without a container.

What saves this game, however, is the drama of the setting; some excellent if rather sombre graphics; tough puzzles; and a useful icon-driven command system. These features do help to maintain interest, but let's hope that with Abstract Concepts' next game they're riding the lasting interest wagon rather than having to keep it going.

LANDSCAPE	88	SYSTEM	68
CHALLENGE	91	ENCOUNTERS	65

ACE RATING 820

PAT'S PATCH

Discovering bugs in your game is simple – finding the cause and correcting them is often much harder. Depending upon the nature of the fault there are several approaches, the first being to pinpoint where the fault is occurring.

The simplest way to discover which parts of code are being looked at and which are not is to insert a set of dummy messages in your code. Don't follow the messages with a WAIT or OKAY command or they will divert the system, simply follow them with END. The messages themselves can say anything you want – I tend to use 'message 1', 'message 2' etc and spread them through the code evenly. Then if while testing something unexpected happens a set of messages will be printed on screen corresponding to the points reached by the system.

Thus if you expect a condition towards the end of the low table to be read, put a message directly before and after it. If the condition has a WAIT or OKAY after it, the message following that condition should not be printed if the condition was successful.

Having pinpointed the area of a fault the next step is to discover what the fault is. The following short conditions (enter at the beginning of the low table and any suspect local table) will help you to see what the system is doing and whether it matches what you expect.

1) PRINT ROOM END (Prints the number of the current room to the screen).

2) IF (NOT (0 IN NO1) AND VERB "find") FIND NO1 WAIT END (If the player types 'find object' {and noun & object nos match} the player will be moved to the object).

3) IF (VERB 'bring') BRING NO1 WAIT END (As 2, but brings the object to the player – useful if you can't get at the object or have forgotten its location.)

4) LF PRIN VBNO LF PRIN NO1 LF PRIN NO2 LF (Prints the numbers of the words in the input being used by the system.)

The following lines should be inserted as and when needed with the number 'x' being specified each time.

5) PRIN CTR 'x' END (Where 'x' is the number of the counter whose progress you wish to monitor.)

6) IF (SET? 'x') MESS "marker" PRIN 'x' MESS "is set" END (Shows the state of the required marker.)

7) IF (RES? 'x') MESS "marker" PRIN 'x' MESS "is reset" END (Shows the state of the required marker.)

These few tricks should help solve many of your problems.

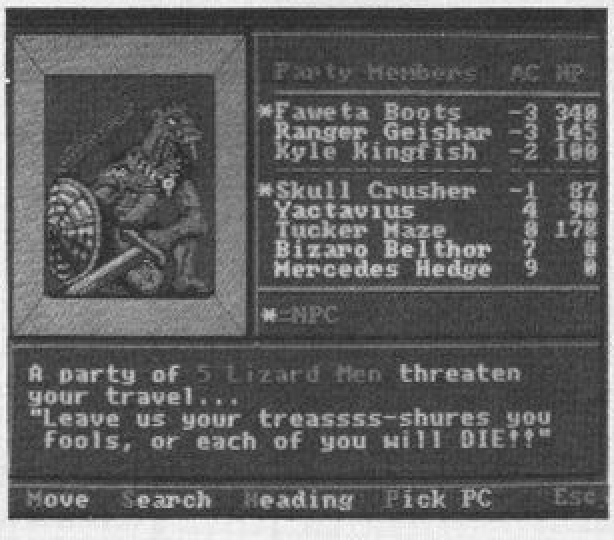
DUNGEONS AND DRAGONS

In a £1 million, 5 year project, US Gold and SSI have banded together to produce a series games based on the *Advanced Dungeons and Dragons* system. The first two games will be *Pool of Radiance* and *Heroes of the Lance*, both to be released later this year.

Pool of Radiance is set in the Forgotten Realms and features the usual *D'n'D* methods of character definition together with a large monster database and an on-screen presentation reminiscent of the *Bards Tale* series. First glimpses of the preview screens seem extremely promising, with lots of colour and excellent piccies. You can also define certin aspects of the display (e.g. your characters' appearance) yourself.

Heroes of the Lance gives you control of eight companions as you penetrate the ruins of Xak Tsaroth to retrieve the Disks of Mishakal. *Dungeon Master*-type sequences and graphics abound, together with the usual character/party formations and, again, previews of the game look very exciting.

Best of all about this project, however, promises to be the long-term nature, with many games and support programs (including utilities to help set up your own scenarios) to come. We'll bring you further news as soon as we get it, but initial reaction to the material we've seen is enthusiastic, to say the least!



```
Party Members      AC  HP
*Faweta Boots      -3 340
 Ranger Geishar    -3 145
 Kyle Kingfish     -2 100

*Skull Crusher     -1  87
 Yactavius          4  90
 Tucker Maze        8 170
 Bizaro Belthor     7   0
 Mercedes Hedge     9   0

*=NPC

A party of 5 Lizard Men threaten
your travel...
"Leave us your treassss-shures you
 fools, or each of you will DIE!!"
```

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The Travellers' Times

Edited by The Pilgrim ● Honorary Editor: The White Wizard ● Published by Far- Future Publishing
Price: Free with this copy of ACE

WE'RE FAMOUS!

Adventurers are rapidly becoming the centre of attention from software houses as role-playing and fantasy games continue to take off in the States like never before.

Latest boost to us key-tappers is the announcement by Mediagenic (formerly Activision) that 'story telling' software is to be made one of their prime areas of investment over the next few years.

The company have also hinted at extravagant plans for Infocom, whom they bought out some time ago. Larry Sparks, newly appointed marketing manager in the UK, is reportedly unhappy at the previous lack of promotion of Infocom titles in this country and 'intends to put the record right'.

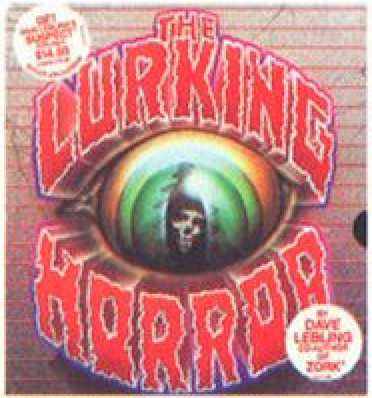
Mediagenic aren't the only ones to be jumping firmly onto the adventure/role-playing bandwagon. As you can see elsewhere on this page, Electronic Arts are now fast developing their *Bards Tale* series and looking for new RPG titles to release in the near future. Even US Gold is getting in on the act with *Dungeons and Dragons* (see page 75).

There was a day when us adventurers were universally despised by most software houses. Times they are a'changing...

INFOCOM TRILOGY

Mediagenic are to release a special compilation pack of Infocom titles, featuring *Hitchhikers' Guide to the Universe, Leather Goddesses of Phobos*, and *Zork I.* Retail price has yet to be fixed, but you can sure that it will represent a substantial saving on the original outlay for the three separate games.

Infocom are also hard at work on a new game with Douglas Adams. Watch out for *The Restaurant at the End of the Universe* in the not too distant future, as well as further collaborations with other famous authors – check this space for details.



Infocom - no longer the lurking horror in Activision's catalogue.

SKARA BRAE BLASTED

Bards Tale 3 is almost upon us, in which you materialise outside the ruins of Skara Brae and must travel the seven astral planes to set the world to rights and restore the city you visited in *BT* and *BT2*.

The latest game in the series, released hot on the heels of *BT2*, adds two new classes of magic user – Geomancers and Chronomancers. This is of particular interest to experienced players of the system since a geomancer can be a development of an advanced fighter. In previous versions, fighting men simply did what fighting men have to do – fight. Now they can learn to cast spells as well. Chronomancers have been introduced for the purpose of mastering 'planar travel' – essential in this game if you are to restore order.

Other improvements include the listing of known spells (so you don't always have to refer to the manual), lots of outdoor locations, more puzzles, and three spells (identified in the game as 'ancient knowledge') which can be picked up by any one. This last feature is significant because it can provide the means for any class of character to wield some degree of magical power.

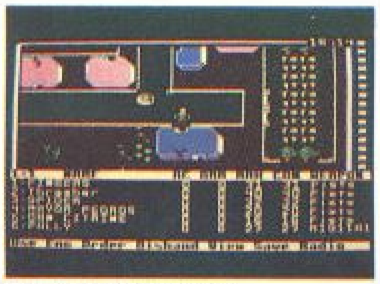
LOOK – NO BARDS!

The programmers of the ever-popular *Bards Tale* series have started work on a new game that could improve substantially on the quality of computerised role-playing.

Wasteland takes you through a devastated world, battling against biker scum, new wavers, and rabid bunnies. In addition to the usual character attributes of strength, intelligence, and so on, the program offers 20 skills ranging from gambling to demolition and (Douglas Adams eat your heart out) bureaucracy.

Skills can be read up in the library and, in combination with your intelligence, lead to far greater character definition. Even better, you can now split parties of adventurers in order to surround enemies, increasing the tactical interest of the game.

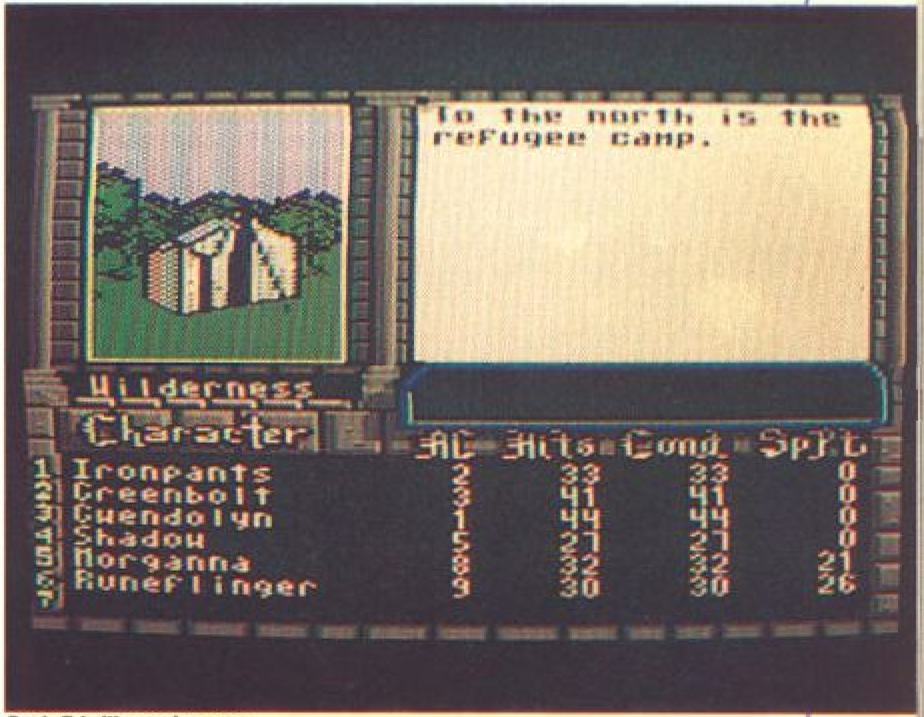
Combine all this with disease (Wasteland rabies amongst others), humour – as in 'You brutalise the biker scum for ten points' – and attributes for nationality and sex, and you have a substantial advance on the *Bards Tale* series and a very promising game. Watch out for the review, coming soon.



Wasteland - kill the bikers!

AAGHGH!

What can I do? Last month, I promised you the Ultima V review. This month, Origen Systems tell me it's been delayed **yet again**. I hereby break my staff in two, eat it, and hold my peace until the darned program actually materialises on my desk. My apologies, but when the game's not there, neither's the review. All I can say is that I'm sure that when it finally does arrive, it will have been worth the wait.



```
To the north is the
refugee camp.

Wilderness
Character              AC  Hits  Cond  SpPt
1 Ironpants             2   33    33     0
2 Greenbolt             3   41    41     0
3 Gwendolyn             1   44    44     0
4 Shadow                5   27    27     0
5 Morganna              8   32    32    21
6 Runeflinger           9   30    30    26
```

Bards Tale III - coming soon.

CARRY ON SCREAMING...

Games players come in all shapes and sizes and usually it's tough to tell, at first glance, what particular class of games they prefer. Could you spot a flight sim freak in a crowd? How do you instantly recognise a shoot-em-up addict? It's not easy is it? But there's one class of games player that always stands out in a crowd – the 'frustration games' addict. This particular type of games player has several distinguishing features which makes him readily identifiable. The large tufts of hair missing from the scalp, the blood-shot staring eyes, the tortured grimace and the clenched fists (with scratches from the glass of the shattered monitor). If you're now wondering why these people continue to play games that drive them up the wall, chances are you've never experienced the FUN that can be got from playing them. Because, strange as it may seem, those games that regularly drive you up the wall also happen to be some of the all-time greats. We take a look at these tormentors, and what makes them so, *so* frustrating...

Just imagine – you've just spent a fair slice of your wages or pocket money on a brand new shoot-em-up. You've read the scenario and any other relevant information while the game was loading (Spectrum owners have probably made themselves a cup of coffee as well) and now you're ready to inflict some serious damage on some alien ammunition dump, or rebel planet, etc, etc. You launch into the game and you're going great guns – nothing, it seems, can survive your onslaught. Well, almost nothing, because one stray missile hits your ship and you've lost a life. This in itself is annoying but to your horror, the game restarts back at the beginning! You have to go through the whole thing again, even though you've still got two lives left! NNYAARG! It's all you can do to stop yourself throwing a brick through the monitor. Here at ACE we call this Restart Position Frustration. Serious offenders in this category are: *Army Moves*, *Salamander*, *Ghosts and Goblins* and *Rolling Thunder*. There are plenty more frustration categories besides this, though, and we take a look at the worst. We also list those games that make you wail with anguish – and not always for the right reason...

ANTI-BONUSES

These are the things that are not as they first appear. You're just about to pick up what you think's going to be a juicy bonus that will enhance your ship (or whatever) and as you do so the bonus turns out to be more of a hindrance than a help – it probably causes the controls to be reversed for a few vital seconds, or makes your ship slow down dramatically (or at least enough to make it darned near impossible to avoid the next shot fired at you by the enemy). Either way, it's a mean trick to play on an unsuspecting gamer. Also in this category is the bonus that sits in some extremely inaccessible place in the game and just wills you to come and collect it – 'Come on,' it whispers, 'I'll make your job so much easier.' So you go for it, and after a lot of struggle you manage to collect it. Now – and only now – you discover that it does virtually nothing. Arguably the worst case in this category is the bad bonus that you know is bad, but which is terribly difficult to avoid picking up. NYAARG! again. Serious offenders here are: *Gothik* and *Sabre Wulf*.

DEATH TRAPS

Three major forms of unfair deaths occur frequently in games. The first is the Death Loop: you get caught and lose a life, the game restarts at the same position, and before you have chance to react whatever killed you in the first place kills you again – and so on until you've lost all your lives and have to restart. Almost as bad is the Unavoidable Death, where you know that during a certain game, at a certain point you are going to lose one of your lives. Try as you might, there's just no way you're going to get past that stage without losing that life. The final frustration in this category is the Unforeseen Death – you've no way of knowing that at a certain point in the game a large slab of concrete is going to fall from the ceiling and remove one of your lives. You'll know next time right enough, but that's no consolation when you've spend hours getting to a certain point in a game only to be killed off by something that you had no way of predicting. Serious offenders with Death Trap problems are: *Barbarian* (Psygnosis), *Bounder*, *Jet Set Willy* and *Predator*.

COLLISION DETECTION

There are two main classes of poor collision detection – both causing those cries of 'he never touched me ref!' The first, and possibly least harmful, is the 'regular' class. The collision detection may be bad, but you can soon learn to live with it and compensate for it. The worst cases are the games with 'irregular' collision detection. Here, the collision detection can be off to such a degree you can't compensate for it. Serious offenders for the first and second class respectively are: *Zynaps* on the Amstrad and *Screaming Wings* on the ST.

NO QUIT

You know what we mean – you've made a complete hash of a game and you realise you're better off restarting. But is there an option that lets you do this? Probably not, so you have to actively go and find some method of committing suicide. This can be terribly frustrating and we even gave away one of the worst offenders in this category – *Impossible Mission*. Can you ever forgive us?

TITLE SCREENS

The first thing you want to do when you load up a game is play the thing, yet it seems as if programmers sometimes actively seek to frustrate us with tediously long title screens and rolls of credits that you're forced to watch before you get to the game. It's not too bad if you can hit a key and bypass the credits, but if you have to sit through them every time – well, by the time you're allowed to play you could have lost all enthusiasm.

Serious offenders here are: *Out Run* (ST), *Barbarian* (Psygnosis), *Panzerdrome* and *Obliterator*.

NO PAUSE

There you are, just about to score your highest EVER score and you hear the doorbell go. Auntie Ethel had no way of knowing you were in the middle of a game, but you can bet she'll be the target for your frustrations once you get round to letting her in. Interruptions aren't usually such a problem for us here at ACE (although it can be when we're playing a game with no pause mode and the sandwich girl comes round), but what can really cheese a magazine off more than anything is a fantastic game that either has no pause mode, or else one that makes getting screen shots a nightmare by either altering the screen (blanking it out is particularly upsetting) or by plastering 'Game Paused' right across the action. The worst no-pause-mode offender is *Tetris* and the worst change-the-screen-when-paused offender is *Interceptor*.

HIGH-SCORE TABLES

Some games force you to enter your initials after every game – this is not so bad if you've done well, but some games have high-score tables so large you can get your name on them just by starting the game and letting yourself get killed! This is particularly bad when it doesn't save the score to disk so you have to go through the whole process every time, and believe us, putting your name up at the 150th position does nothing for your ego. The worst example of a far too large high-score table is *Crack*.

MULTI-LOADS

A nightmare, most of these. You're almost out of lives as you manage to reach the end of the second level. You sit back and wait for level three to load in and almost as soon as you start to play, you lose your last life. That immortal legend then appears on-screen 'Please rewind to the start of the tape'. You've got to go through the whole process again, and what's to guarantee you do better next time? Nothing! NAARGH! Serious offenders here are *Predator* and *Renegade*.

FLIES IN THE OINTMENT

Last, but by no means least, are the games that really sit back and have a good laugh at you. You've played a game for hours, you've done extremely well, you've nearly finished some mammoth task and you suddenly realise the game won't let you finish it because you forgot to carry out some insignificant task right at the beginning. Or you've fought your way through hoards of pirates (yes, we're talking *Elite*) clustered around some anarchic planet, and after what seems like hours of concentrated effort, you're almost within range of a space station. Suddenly you hear that screech and realise you're being shot at – you make a run for the station and as you do so, a quiet message appears on the screen 'Docking computers destroyed'. Even if you reach the damn station alive you'll probably crash as you try to dock manually (survive the manoeuvre and you'll probably be pleased to learn that your precious cargo is cheaper here than it was where you bought it!). NAARGH!

Serious offenders here are legion. In *A.T.F.* for example, you're low on thrust and just about to land but putting the undercarriage down stalls the plane. Then there's *Get Dexter* – you do all that work and then find yourself in this weird final room where furniture drops on your head, not to mention the gory ceiling fan. And then there's *Mercenary* – get shot down far away from the city and it's a long,long walk to civilisation. Or you might be playing *Academy*, where you destroy hordes of vicious flying robot defenders in a magnificent running battle – only to find out the last shot took out your compass and there's no way you're ever going to find your way back to base. And what about *Deflektor*? There's just one sphere left, but can you find the right line to hit it before the energy runs out? Nope. Finally, there's always *How To Be A Complete Bastard*. If you log on to the computer in this game, the reset option you're given does just that – resets the *machine*, not just the game.

If you've ever had any of these things happen to you, then spare a though for the poor soul who spent hours and a whole lot of money playing *SHADES*. Just before they became promoted to a wizard, some unfeeling person stabbed them in the back and sent them right back to novice level...

IT HURTS, BUT I LIKE IT

BATMAN

Ocean

Amstrad	**£8.95cs**	**£14.95dk**
Spectrum	**£7.95cs**	

Skillfully are we drawn in by this masterpiece of cunning, exploring and puzzling through the delightful isometric 3D screens. How cleverly we are lulled into a false sense of security by these pleasant surroundings. Then suddenly you burst through a door, confident you know what you're doing, and run slap bang into a bat power that takes away what jumps, speed or whatever other powers you did have.

Then of course there are the bat powers located in hard-to-get-at places, which after great effort to get them do absolutely nothing at all.

Most nerve twitching of all is the bit of the batmobile that's hidden from view – it could take you weeks to find it. By which time you'd kill for the solution.

Bounder

BOUNDER

Gremlin

Ten Great Games Compilation

Amstrad	**£9.99cs, £14.99dk**
Spectrum	**£9.99cs, £14.99dk**
C64	**£9.99cs, £14.99dk**

What an addictive nightmare this is. It's not just that it's frustrating, it's the fact that you can't stop playing it. The first problem is controlling the bouncing ball, which is like trying to manoeuvre a supertanker in a bathtub.

Then, as you merrily bounce off up the scrolling course, you go in the wrong direction and slap into a ball-bursting dead end. Not content with this the game may then put you back on a restart point where you've got no chance of surviving.

Just to cap it all are the unforeseen dangers and anti-bonuses that are so easy to hit, and you'll never know what hit you. Nurse, the screens...

NEBULUS

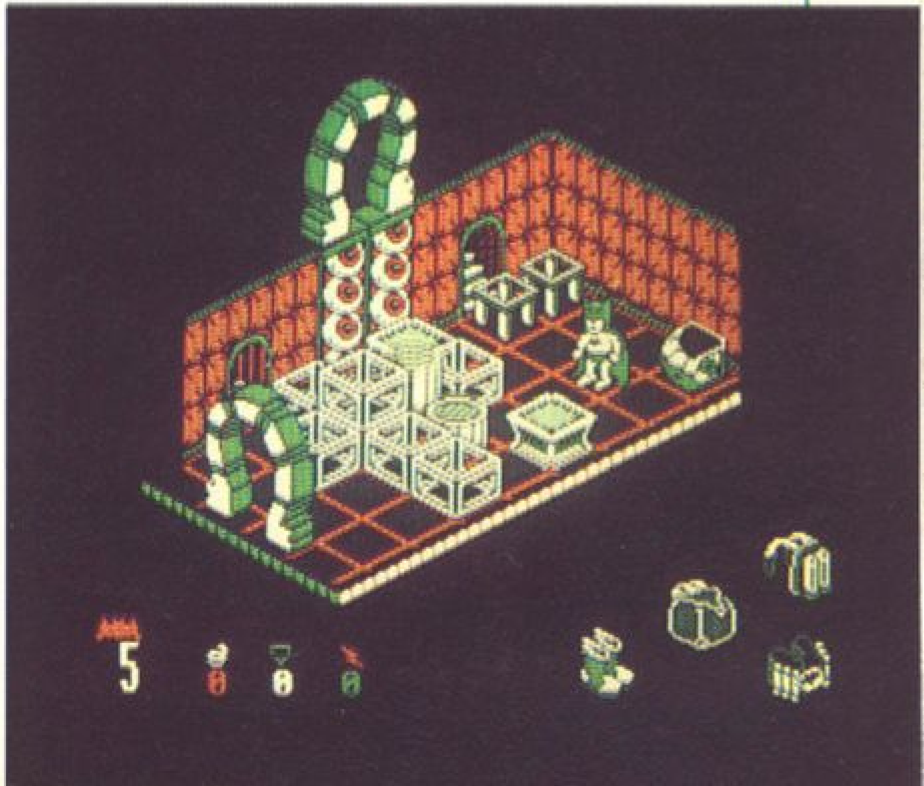
Hewson

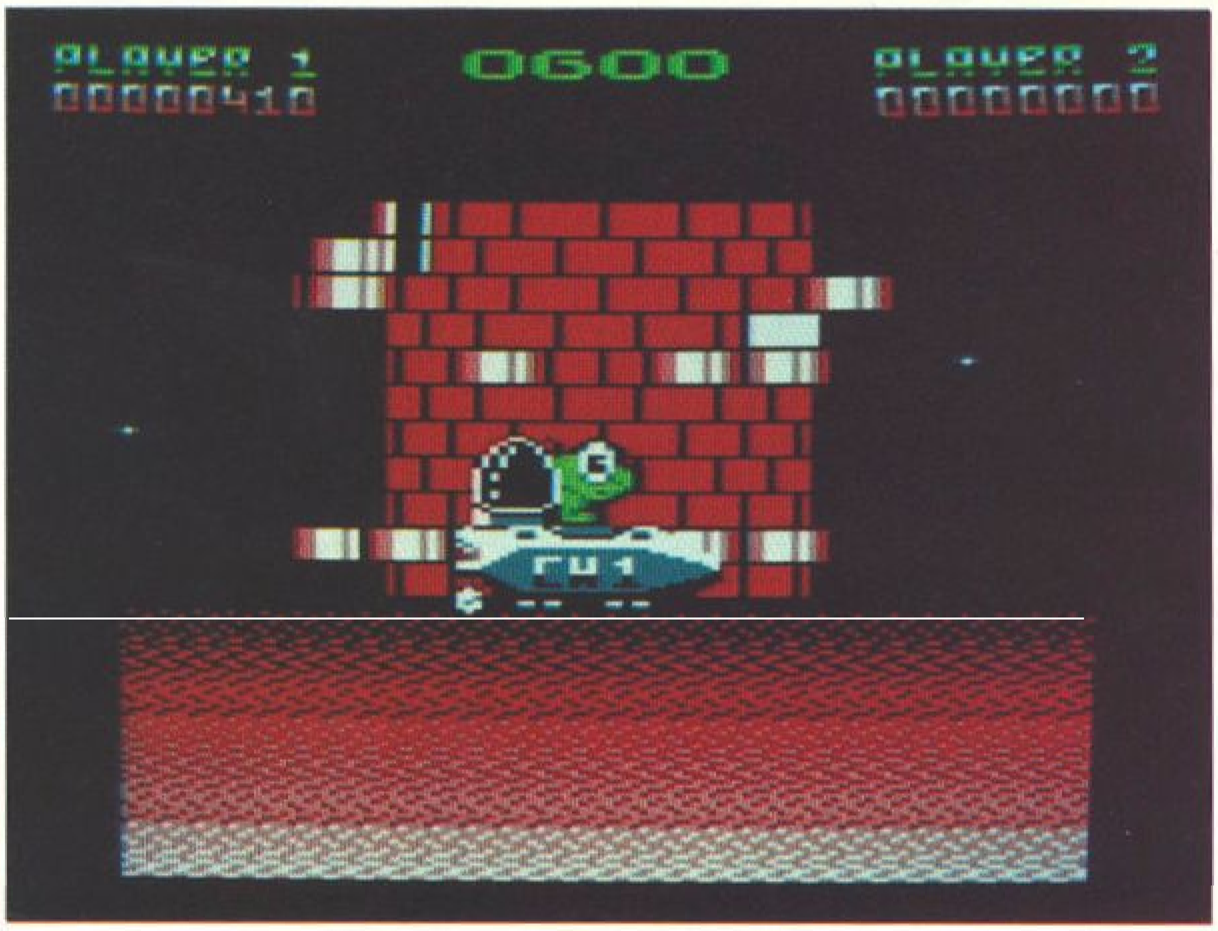
Amstrad	**£9.99cs**	**£14.99dk**
Spectrum	**£7.95cs**	
C64	**£8.95cs**	**£12.95dk**

Platform games have always had a frustration element, and this tower-turning variant is one of the best at it. The whole aim is to get to the top of the tower, and everything is trying to stop you.

Imagine the horror that

Batman





Nebulus

strikes your heart as you near the top of the tower, with time running out, knowing that one false move will send you tumbling a horrible distance back down again.

The puzzles and aliens can also have you chewing through your lip in mental agony. They have a knack of appearing just when it's most awkward for you, or putting a disappearing block where you least expect it.

You can easily spot *Nebulus* players because they eventually become resigned to these spirit-crushing disasters and adopt sad expressions, drooped heads and sloping shoulders. Then again, you should see them when they complete a tower – they would go down a treat on 'The Price is Right'.

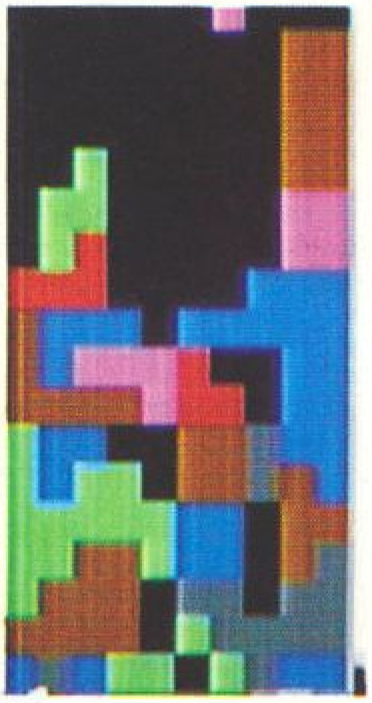
TETRIS

Mirrorsoft

Amstrad	**£8.99cs**	**£12.99dk**
Spectrum	**£8.99cs**	**£12.99dk**
C64	**£8.99cs**	**£12.99dk**
Atari ST		**£19.99dk**
Amiga		**£19.99dk**
IBM PC		**£19.99dk**

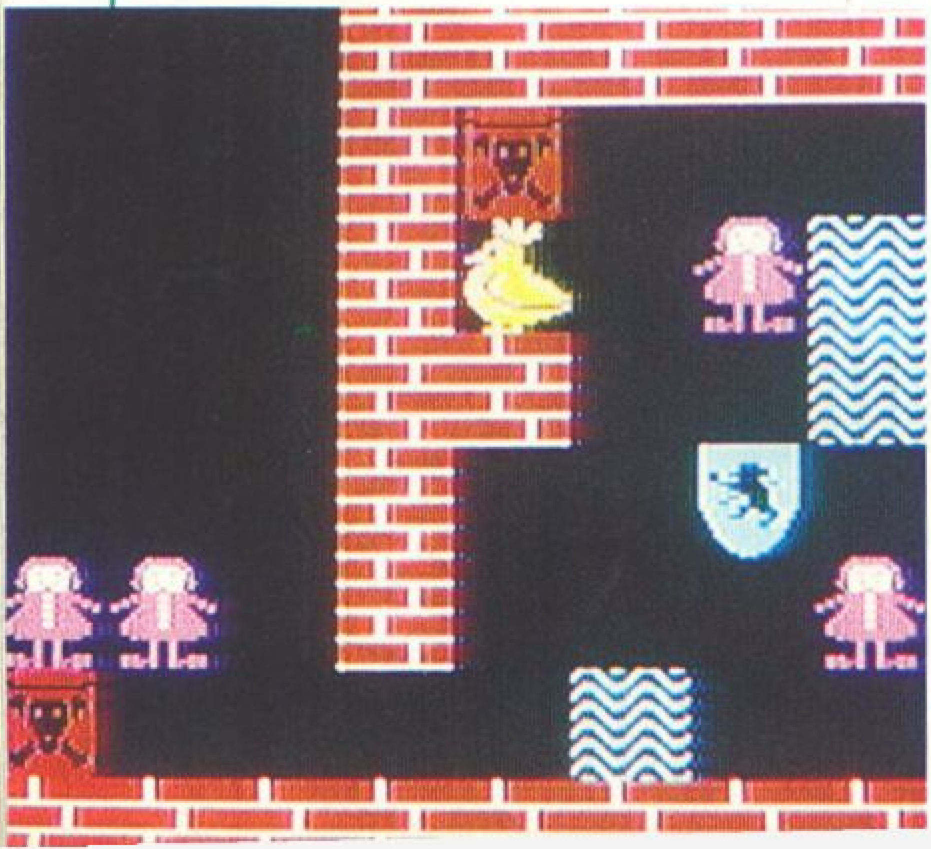
Not a game that can be said to soothe the nerves. On most versions it would become a Newton's cradle type of device for calming the mind at about speeds 5 and 6, but it keeps on speeding up. Your brain starts to go into overload, the fingers fly at light speed, but all to no avail – you just can't win.

However much you persevere that smug computer is always going to win. Oh, the agonies of *Tetris* players as block after block fails to fit into their carefully arranged pattern and builds ever nearer the top of the screen.



Tetris

Xor



Thrust

It's also a culprit of not having a pause mode, except on the C64 version. You can never get any sort of a break from the action and you'll walk away a mere shadow of your former self.

THRUST

Silverbird

Spectrum	**1.99cs**	
Amstrad	**£1.99cs**	
C64	**£1.99cs**	
Atari ST		**£9.99dk**

Sensitive controls and big-league inertia are enough to make this one deep-down frustrating. You belt into a cavern, pour bullets into those gun-turrets and – having masterfully cleared the area out with a graceful arc of firepower – pile into the opposite wall because you're going too fast to stop. If that's not quite maddening enough for you, there are always the restart points to drive you bonkers. A special mention here goes to 'the cup', a structure only found in the ST version, which forces you to haul the pod diagonally down out of its cave. Complete this monumental feat, crash your ship and the game puts you right back in the cup. Get a little further before you crash and it'll put you in a narrow tunnel below the cup, but with the pod balanced *above* you. Gnash your teeth in vain!

XOR

Logotron

Amstrad	**£9.95cs**	**£14.95dk**
Spectrum	**£7.95cs**	
C64	**£9.95cs**	**£12.95dk**

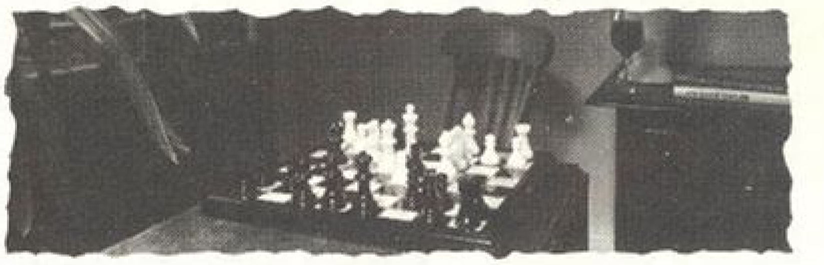
This game of maze puzzles with chicken, fish and explosions, is a classic for getting 'walled out' and it can happen at any time. The puzzles are constructed so that in nearly every case one wrong move can scupper the whole game. Of course your second shield might be able to get you out of trouble but you'll probably be too flustered to manage it.

The worst part about it is the speed with which events can happen. You decide on a move and put it into action, only to find the unstoppable sequence of events results in a fish penetrating your skull.

It's also a classic for the creeping feeling of 'Oh no, what have I done?' as it slowly dawns on you that you've blocked off an essential passage. It's absolutely devastating and makes you that much more determined to have another go and succeed.

Novice or Grand Master, choose the Ultimate in Chess Software - Sargon III

SARGON III



Sargon III is the result of over 21 man-years of development. It will play at precisely the level of difficulty (or simplicity !) you need. It will give hints, take back moves, replay for you - it will even change sides. Sargon III contains an opening library of over 68,000 opening moves, and it stores over 100 Classic games in Chess History. In the US, it has won the PC World magazine Microcomputer Chess Tournament. And in field trials on 6502 and 68000 - based computers, it has beaten its main rival, Chessmaster 2000.

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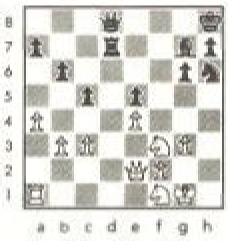

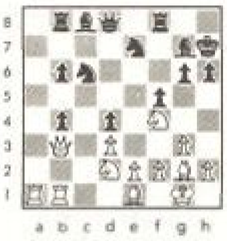

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Amstrad	£9.95cs	£14.95dk
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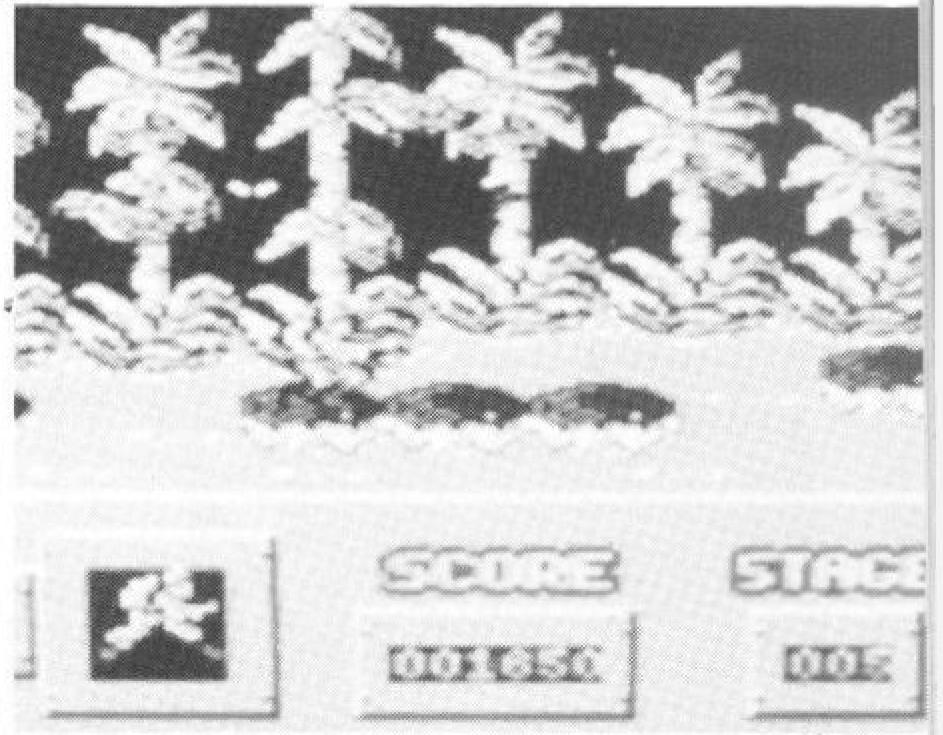
The worst culprit ever for appalling restart points. Most people probably haven't ever managed to get off the first stage without the aid of a poke or other cheat.

It's not just the restart points either. What makes it SO knee-clenchingly annoying is the fact that it's very demanding on the player as well. You've got to be near-perfect in your jeep as you jump wide chasms in bridges, blast other leaping jeeps and blaze away at helicopters bearing airborne death. After battling through screen after screen of that and eventually succumbing, guess where you'll end up? Back at the $#@¢ª# •%ing start.



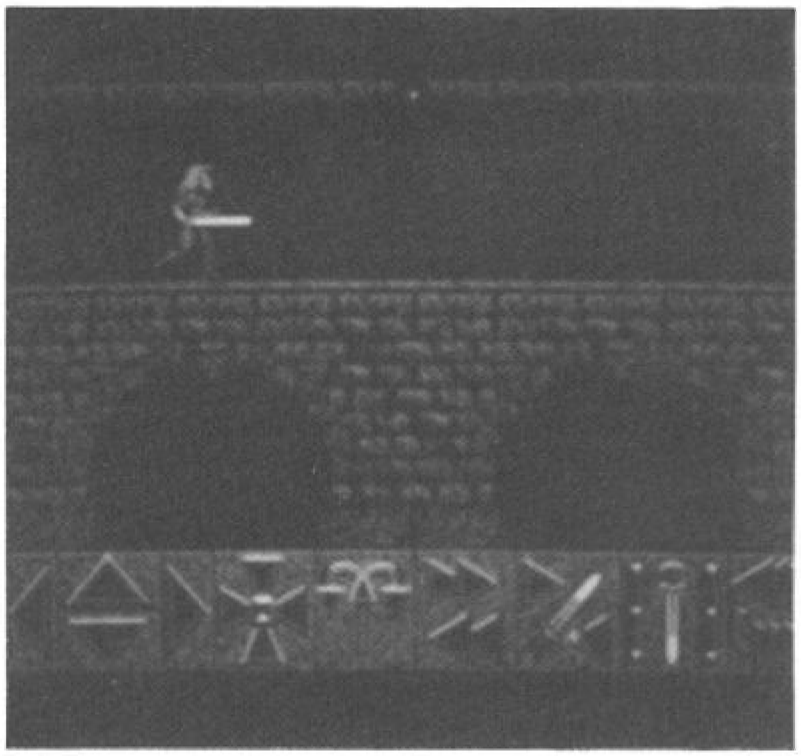
Army moves

BARBARIAN

Psygnosis

Atari ST	24.95dk
Amiga	24.95dk

Not to be confused with Palace's identically named title – frustrating only because it's so easy to complete – this 16-bitter revolves around unforseeable death. The only way to learn which bits of the scenery crush you, collapse under you or burst open and unleash heavily-armed nasties at you is to let them do their worst. Next time you'll know better of course, but that hardly goes easy on the old blood pressure. Couple these with a hero who obeys your commands sluggishly if at all, a game system that seems to load every screen separately from disk and a fake bow and arrow designed to lead you astray, and you're in for anger on a telly-smashing scale.



Barbarian

ECO

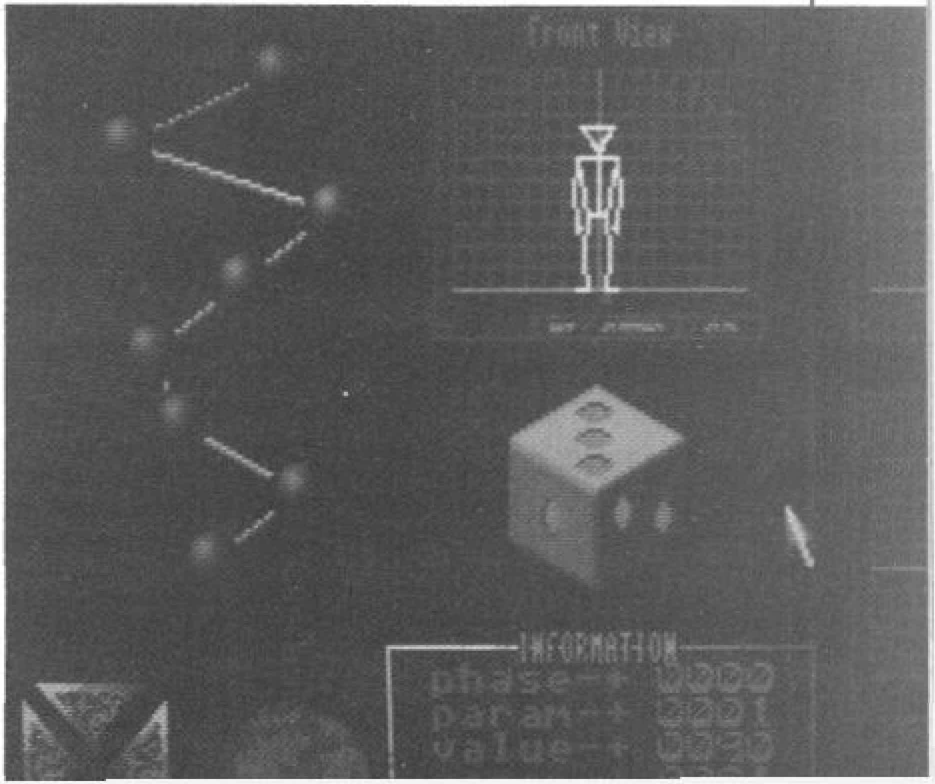
Ocean

Atari ST	£19.95dk
Amiga	£24.95dk

A unique case, this, in inspiring the player to new heights of anguish. A game that looks flawless in its conception, where you try to modify a simple insect into ever higher life forms. A game with stylish, attractive graphics. A game with eating, sex and death. With that recipe, surely a game to inspire paroxysms of delight?

Nope. The whole problem is that you start with high hopes of a great experience and spend minutes, hours and days trying to find the game. The sad truth is it isn't there – and is it ever frustrating going through all that just to be let down.

Eco



PREDATOR

Activision

Spectrum	£9.99cs	
Amstrad	£9.99cs	£14.99dk
C64	£9.99cs	£14.99dk
Atari ST		£14.99dk

Any game that gives you more than ten lives (or their equivalent) should put you on your guard for frustratingly unavoidable deaths, and here's a case in point. When it comes to attrition gameplay, this Schwarzenegg'em-up comes out tops every time. Ploughing through a hostile jungle you might expect to take hits from snipers, but would Arnold really get killed by bats? And would he really (in films rather than real life) be faced with enemy firepower he couldn't help getting wounded by? Being ground down without actually making mistakes to deserve it is just too frustrating for words but, if your blood's still a bit below boiling point, why not check out the extra weapons? You can pick up anything from a machine pistol to a 6,000 rounds per minute minigun but your fire rate stays infuriatingly constant. Sounds like a bit of a raw deal, hmmm?

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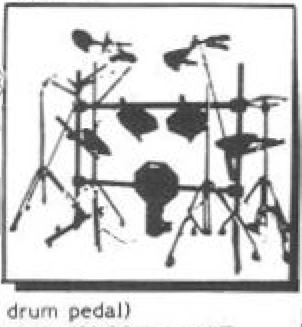

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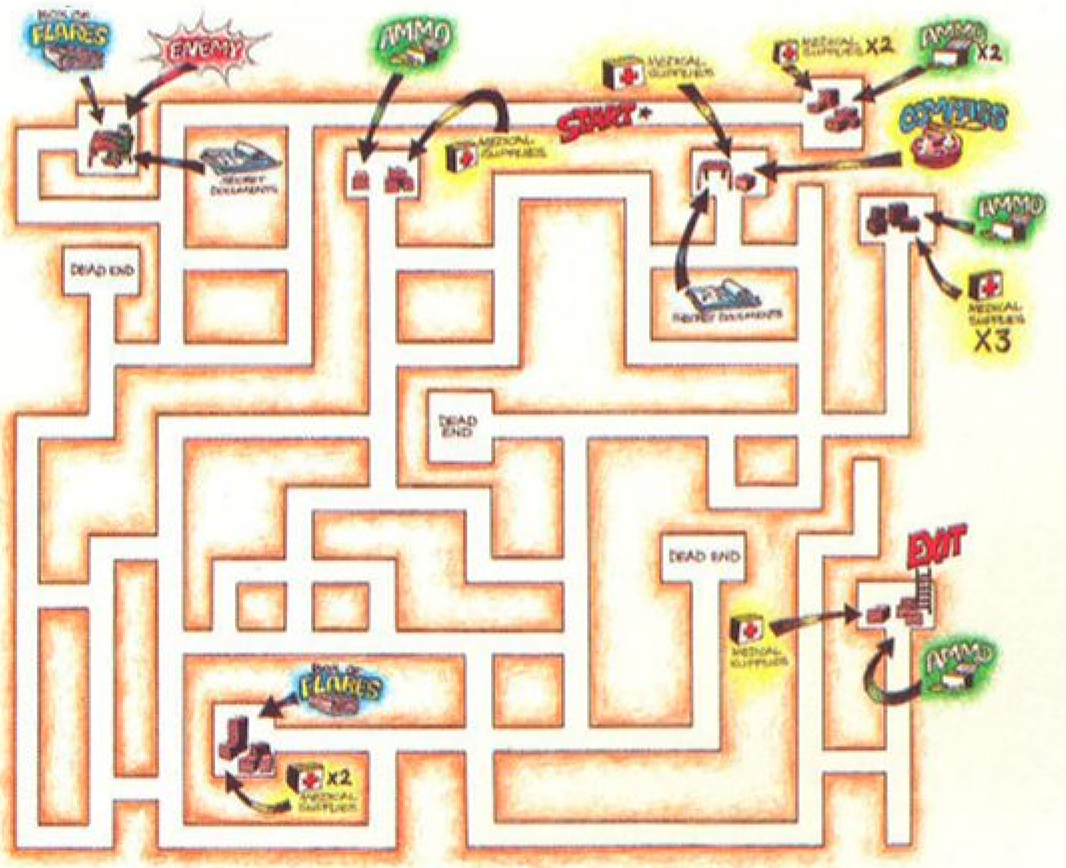
PLATOON MAPPED (PART 3)

Ian Thompson supplies the third section of the combat zone.


BOX OF FLARES
ENEMY
AMMO
MEDICAL SUPPLIES X2
AMMO X2
MEDICAL SUPPLIES
START
COMPASS
MEDICAL SUPPLIES
SECRET DOCUMENTS
DEAD END
AMMO
MEDICAL SUPPLIES X3
SECRET DOCUMENTS
DEAD END
DEAD END
EXIT
MEDICAL SUPPLIES
AMMO
BOX OF FLARES
X2 MEDICAL SUPPLIES

TNT

Those juicy tips and pokes just keep rolling in – if a particular game's driving you up the wall, here's the place to look for a tip that could make your life a whole lot easier. Do you want to crack *Impossible mission*? Would you like to complete *Dan Dare II*? Or make it to the end of stage 5 in *Out Run*? If you can hack your way through other people's code or produce a map that could prove invaluable to others who are lost, then don't hesitate to send your contributions in – for the best tips, maps and pokes each month we give software away like it was going out of fashion.

SAMURAI WARRIOR

Bushido Bunny loving C64'ers can make life a lot easier for themselves by typing in the following.

First load the game and reset the C64. now try these pokes:

```
POKE 15502,(0-127) for higher starting energy
POKE 15507,(0-127) for more money
POKE 14652,(0-3) to start on a higher level
```

For unlimited energy, type this lot in:

```
POKE 20385,32:POKE 20386,245:POKE
20387,207:POKE 53237,157:POKE
53238,20:POKE 53239,39:POKE
53240,169:POKE 53241,9:POKE
53242,141:POKE 53243,20:POKE
53244,39:POKE 53245,96
```

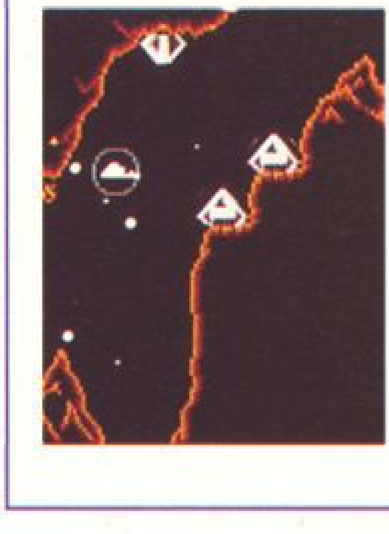
Type SYS 14336 to restart the game

ANDRE VAN DER ELST, Rotterdam

OIDS

Mirrorsoft's ACE rated *Thrust*-ish blast is straightforward enough, but here's a couple of points you may have missed.

1. After refuelling at a fuel base, fire into the air before lifting off. If the refuelling pipe comes out again then the dump still has some fuel in it. If the pipe doesn't re-emerge then the dump's empty and can be shot for an extra 100 points.



2. When going through teleports, fly slowly and activate your shield just as you touch the teleporter – this reduces the risk of impacting your ship on the sides of a small cavern.

3. When creating new planetoids, if you require a more powerful installation such as a stronger attractor or repulsor or a rapid-fire gun turret then simply place two or more of the same object in the same position, (each hit during the game destroys one of them.)

STEVEN BAINES, Cottingham

DAN DARE II

Here's a complete solution to Virgin's treen-em-up on the Spectrum.

1 LEFT, DOWN, D, L, L, L, L, UP, RIGHT, U, U, L, L, D, L, D, SHOOT COMPUTER, R, R, D, D, SHOOT SUPERTREEN, U, R, R, R, R, D, SHOOT SUPERTREEN, D, SHOOT SUPERTREENS, D, R, PICK UP EXTRA ENERGY, L, D, WAIT FOR CRUSHER TO CRUSH TWICE, DOWN INTO CRUSHER, L, SHOOT SUPERTREEN, D, L, D, SHOOT SUPERTREEN, D, L, L, L, U, R, U, U, L, L, D, R, SHOOT BLAST DOORS, ENTER, WAIT FOR DOORS TO CLOSE – FINISHED.

2 R, R, D, L, D, D, L, SHOOT COMPUTER AND SUPERTREEN, D, LOSE A LIFE, GET EXTRA FIREPOWER, D, D, D, D, SHOOT SUPERTREEN, L, L, L, SHOOT SUPERTREENS, R, R, R, U, U, R, D, D, SHOOT SUPERTREEN, D, L, SHOOT SUPERTREENS, R, U, U, R, D, D, R, GET RADIO FROM BEHIND DOOR, U, SHOOT SUPERTREEN, D, L, L, U, U, U, U, R, D, R, D, R, GET BEHIND BLAST DOOR – FINISHED.

3 R, U, U, U, R, R, D, SHOOT COMPUTER, U, L, L, U, L, REPLENISH ENERGY, R, U, R, THROUGH FAKE BLAST DOORS, L, D, L, REPLENISH ENERGY, R, D, D, L, SHOOT SUPERTREEN, D, L, U, L, D, L, SHOOT SUPERTREENS, U, L, L, SHOOT SUPERTREEN, R, U, COLLECT SCREEN FROM BEHIND DOOR, D, R, R, D, D, U, R, U, R, R, R, GET BEHIND BLAST DOOR, FINISHED.

4 R, R, R, R, U, R, GET EXTRA ENERGY, L, U, U, R, R, U, R, D, R, U, U, U, L, SHOOT COMPUTER AND SUPERTREEN, R, D, D, D, L, SHOOT SUPERTREEN, U, U, SHOOT SUPERTREEN, D, L, L, SHOOT SUPERTREEN, R, D, D, L, L, D, L, SHOOT SUPERTREEN, R, D, D, D, D, SHOOT SUPERTREEN, D, D, L, SHOOT SUPERTREEN, R, U, U, U, U, L, L, D, L, GET TREEN DISGUISE, R, R, D, SHOOT SUPERTREENS, U, U, R, U, U, U, R, R, U, U, R, D, R, U, R, R, R, R, R, R, U, R, GET IN ESCAPE POD, WAIT FOR TIMER TO REACH ZERO – GAME COMPLETE.

JONATHAN BARLOW, Southampton

MERCENARY – THE SECOND CITY

Here's a neat tip to allow Amiga-owning *Mercenary* fans access to the author's cheat room where you'll get keys to every door, passes out of prison and the ability to carry oodles of goodies in your pockets!

Fly the dominion dart as usual, fly to above 350 meters, level off (your speed should be 1,781 kph) and fire a missile. Pick the missile up once you get close to it and then land. Go to 08 08, take the crashed intergalactic craft and go to 08 06, go underground, exit your ship and walk through the triangular door – bingo!

SIMON LAW, Crediton

IMPOSSIBLE MISSION (C64)

How could we resist publishing a poke for such a good game? (especially as we gave it away free on the cover of our American Issue).

Enter and RUN this short listing before loading the game and you'll find the sprite collision detection has been disabled (the robot's can't kill you).

```
1 FOR X= 320 TO 347:READY:C=C+Y:POKE
X,Y:NEXT
2 IF C=2941 THEN POKE 157,128:SYS 320
3 PRINT "DATA ERROR"
4 DATA 32,104,225,169,83,141,243,3,169,1
5 DATA 141,244,3,76,13,8,72,77,80,169
6 DATA 96,141,16,120,32,132,255,96
```

THE MASTER HACKER, Holywell

CARRIER COMMAND

A handy tip to find the enemy carrier.

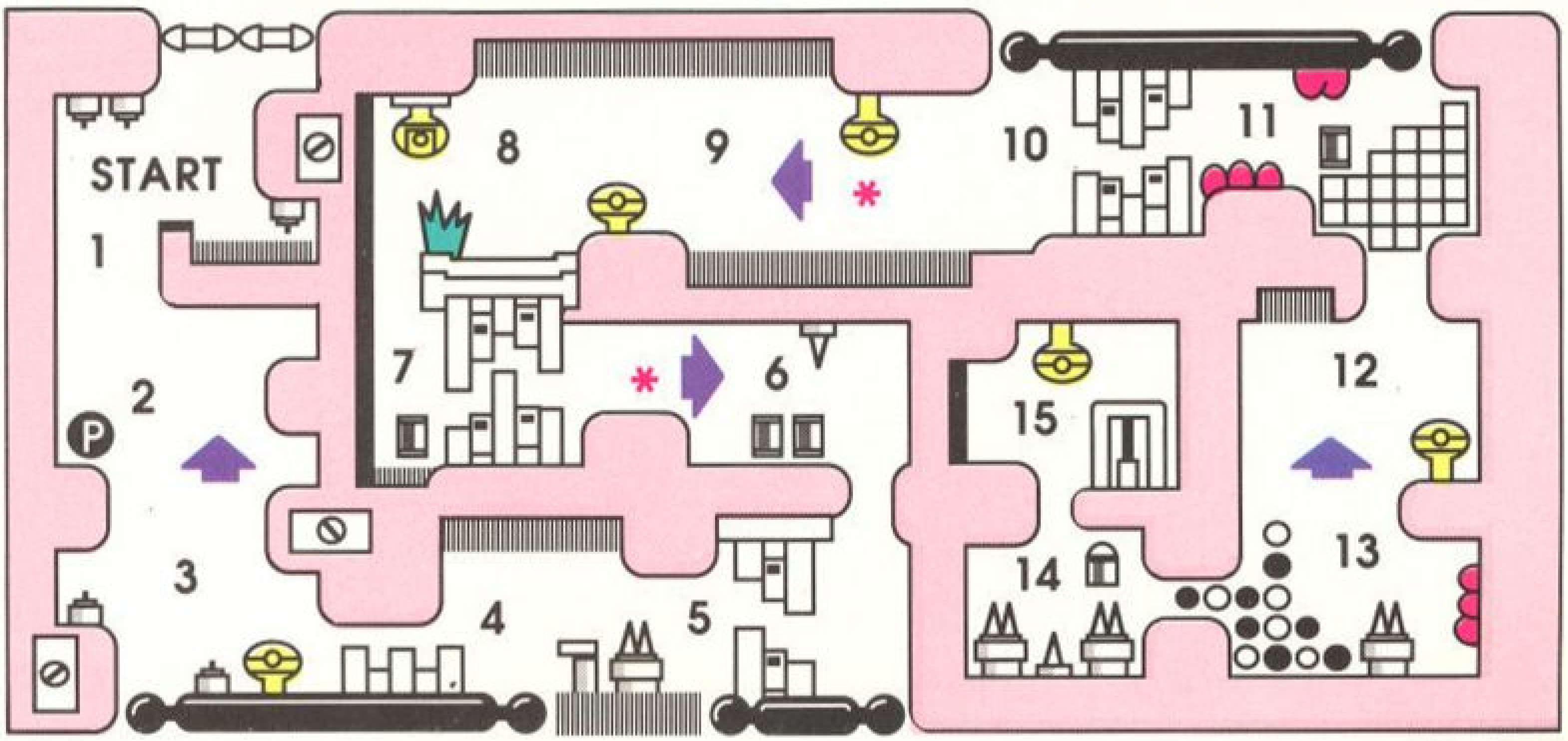
Start an action game and set course for Isolus (just east of Thermopylae). Stay just out of range for approximately 10 minutes. As soon as the message 'Isolus is now an enemy island' appears, launch a Manta and fly towards the north side of the island. The enemy carrier will be directly ahead of you.

When you're arming a Walrus, try loading it up with both missiles and a laser (plus whatever you wish to carry in the rear compartment).

STUART MAY, Walton on Thames

CYBERNOID MAPPED

BRUCE ROBERTSON, Stevenage


START
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15

STAGE 1

GUN

* MAIN CARGO PICK UP POINT

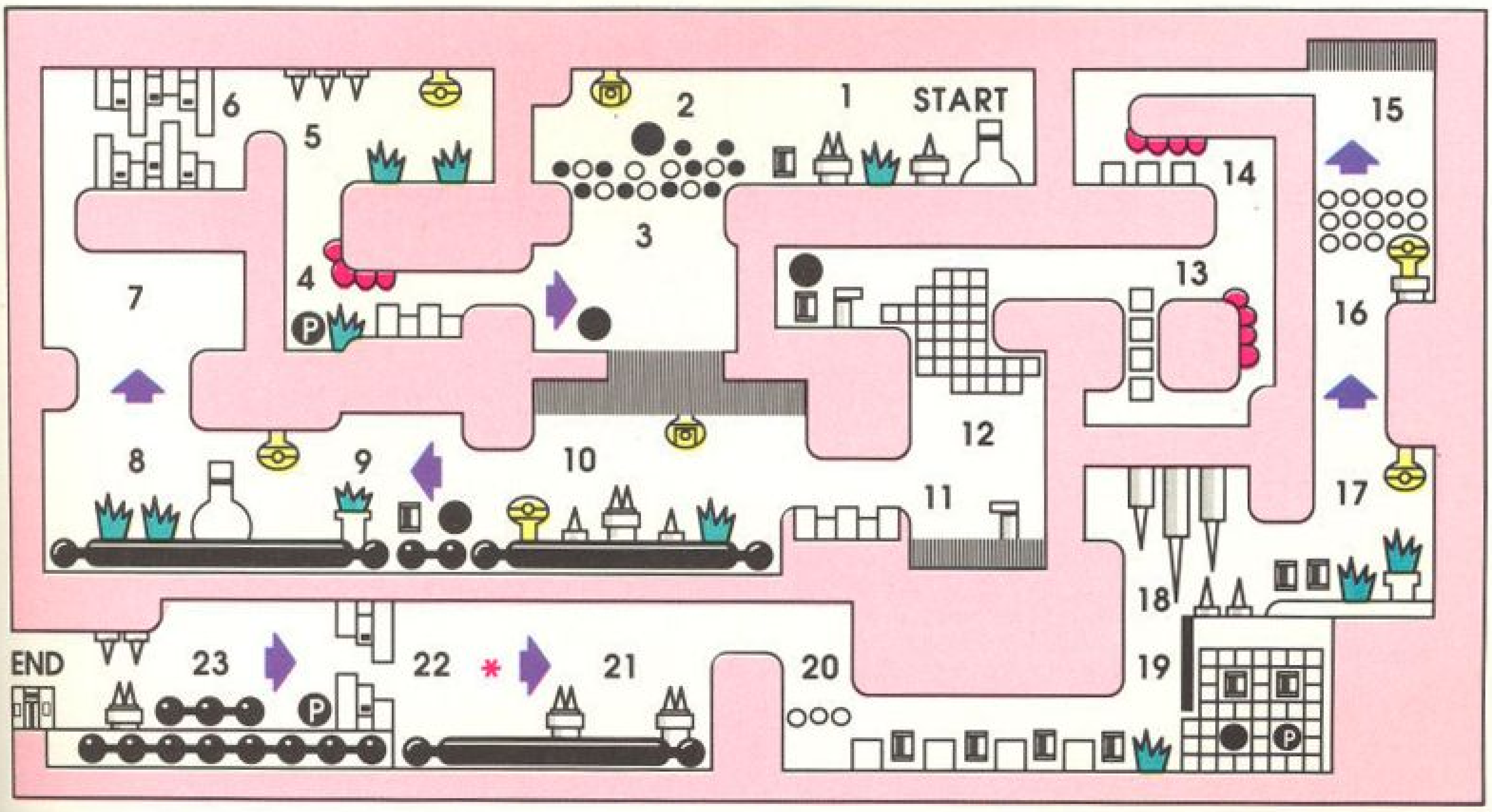
Ⓟ DRONE ▯ CANNISTER △ MISSILE LAUNCHER

▮ BLOCKS CATERPILLAR ➧ ALIEN WAVES

● REAR GUN ADD ON MOVING ALIENS

PLANT

STAGE 2


6
5
2
1
START
15
3
14
7
4
13
16
12
8
9
10
17
11
18
END
23
22
21
20
19

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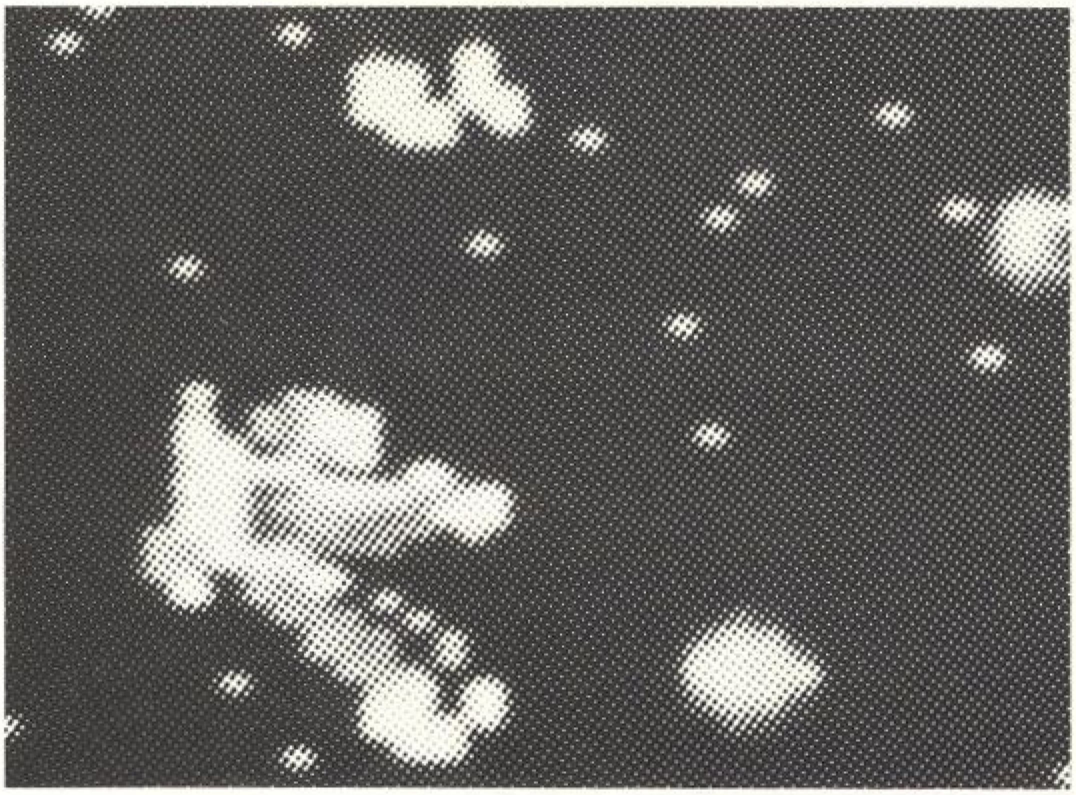


ZYBEX

An infinite lives poke for the C64. Simply type in the listing and RUN it.

```
100 DATA 32,86,245,169,78
110 DATA 141,200,2,169,1
120 DATA 141,201,2,96,169
130 DATA 91,141,121,4,169
140 DATA 1,141,122,4,76
150 DATA 0,4,169,189,141
160 DATA 106,113,76,0,96
170 FOR L+320 TO 354
180 READ A:POKE L,A:NEXT
190 POKE 157,128:SYS320
```

NEIL WHITFIELD, Washington, Tyne and Wear

OUTRUN

ST owners not only get the best version of the game to date, but some handy tips too.

Type in STARION whilst playing the game then select any of the following codes:

B – Gives extended play
Q – Gives you some information about the program
T – Adds ten seconds to your time
S – Takes you through the locations
D – saves the screen in DEGAS format
X – crashes the computer!

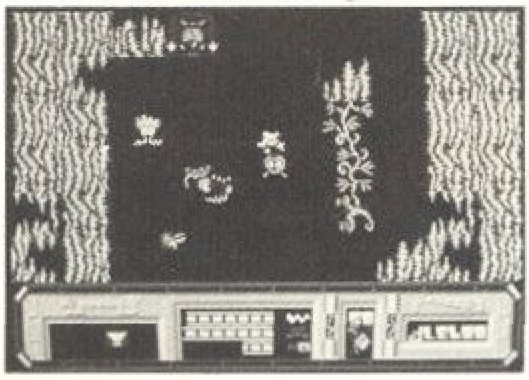
MARTYN CARR, Woking

STARQUAKE

It may be old on 8-bit machines but ST'ers have only recently been able to join in the fun. These codes will help you if your having problems with the Teleporters.

TABET HINDI KWANG ROKEA SOLUN CWORE KALED DAVRO BORNO TSOIN FLIED NICHA LUANG CHING SOCHI

SIMON JAGGS, Birmingham



TARGET;RENEGADE

This tip should prove valuable to Spectrum owners who are finding the game a little tough for them.

Play the game until you have enough points to register your name on the hi-score table. When entering your name, hold down CAPS SHIFT and press BREAK, enter a line and a half of characters and then press enter. Let the game count down and then continue to play with infinite lives (the game screen will be corrupted for a short while but it will clear itself).

DARREN BARTLETT, Hayes

TARGET: RENEGADE

NORTHSTAR

Spectrum owners need worry no longer as this infinite lives poke will solve your problems.

```
30 LOAD""CODE
40 FOR N= 65448 TO 65455
50 READ D
60 POKE N,D
70 NEXT N
80 RANDOMIZE USR 65428
90 DATA 62,36,50,243,188,195,191,183
100 REM INFINITE LIVES
```

JAMES TOUGH, Aberdeen

SOFTWARE GALORE!!

Not many of us can afford to splash out on all the software we'd like, so what's the next best thing? Sending some meaty maps, tips or pokes to ACE. You never know, you could walk away with up to SIX top-rated games for your micro if your tip's picked to be 'Tip of the Month'. Bruce Robertson's laughing all the way to the bank now that he doesn't have to splash out on copies of *Dark Side*, *Target;Renegade*, *Earthlight*, *Action Force II*, *Venom Strikes Back* and *Beyond the Ice Palace* for his Spectrum. Why? Because he'll shortly be recieving all of them from us! Andre van der Elst will soon be grinning over his copy of *Bionic Commandos* as will 'The Master Hacker'. Darren Bartlett's going to be chuffed when his copy of *Dark Side* pops through his door as will Stuart May when he gets to grips with *Leatherneck*. Martyn Carr's in for a real treat once he gets started on *Dungeon Master* though. There's nothing stopping you from winning a juicy prize either, so get those pens moving and send those red-hot tips to:

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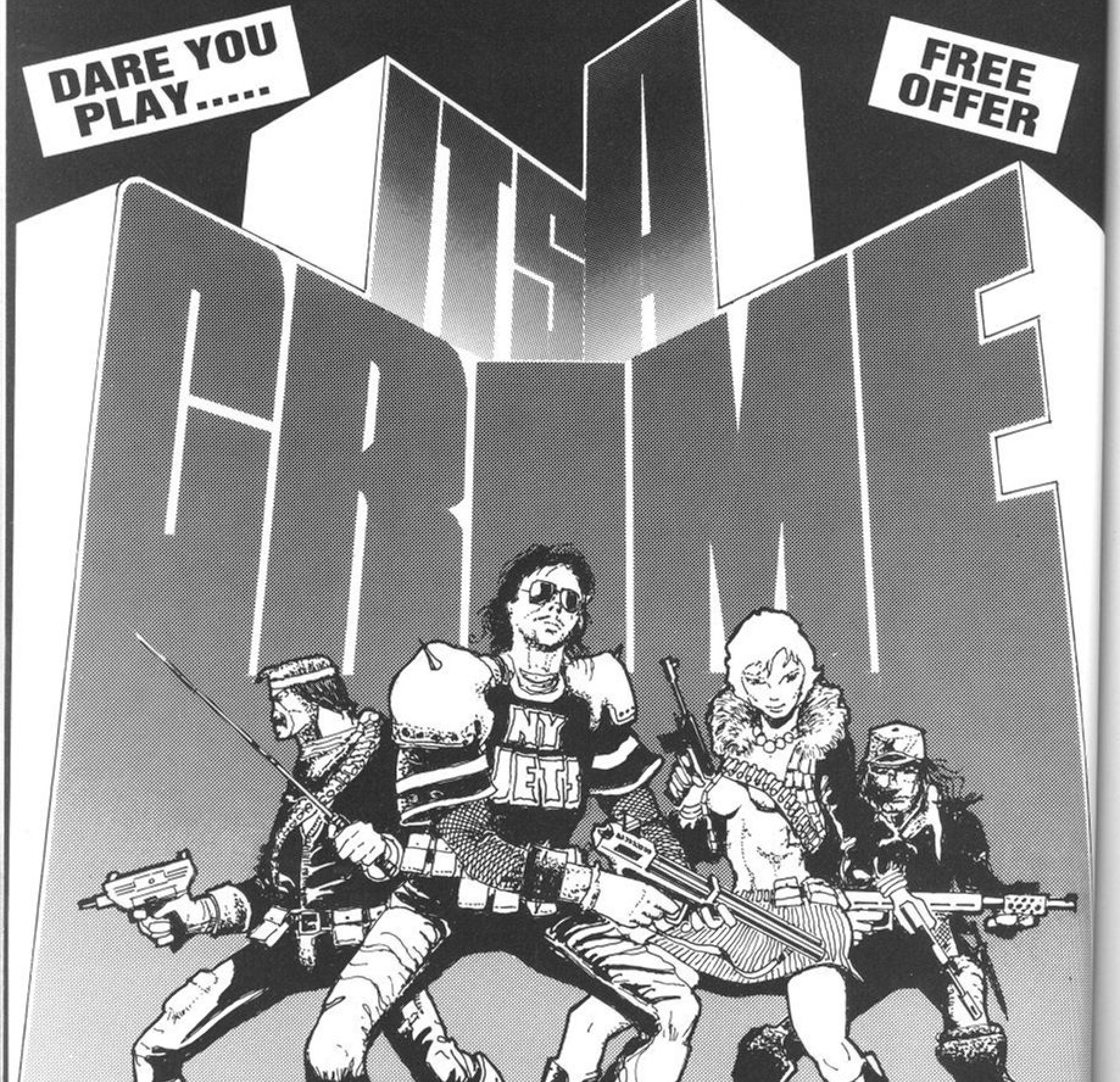

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PLAY IT... BY MAIL

Tony Ross gets his teeth into two newcomers this month – both from Jade Games. *New Order*'s an American import, run over here under license while *Chronicles* are British through and through...

NEW ORDER

Jade Games

No, there's no connection with that pop group from Manchester. This is a game featuring star-ship fleets sweeping through space, attacking, destroying or colonising star systems. Set in a 30 x 20 x 15 chunk of space, up to 30 players engage in empire building by occupying and controlling many of the 700 planets scattered throughout 200 star systems.

From reading the detailed 68-page rulebook the impression is of a complex but well thought out game. There are some features which seem derived from other games, most notably the player types (Imperialist, Xenophobe, Pioneer and Crusader) which may seem familiar to players of *Starweb*, the first space PBM game.

There is little new in the plot of *New Order* that hasn't been done before. Space games tend to have similar features. As usual, some form of hyperspace jump system is employed, otherwise the game would be very difficult to stage while remaining realistic.

There is a great deal of detail in *New Order*, with seven different attributes for space ships and ten ship types. I think the six pages of glossary and two pages explaining abbreviations give a good guide to the complexity of the game.

Victory is achieved by building, controlling, claiming or destroying colonies. Points are awarded according to the type of player you are, and the first to score approximately 1800-2200 (2000 +/- 10%) is the winner.

Unusually for an American-designed game, there is only one price for turns. It is however £2.50, which I consider expensive for a computer moderated game. Given the complexity of the game, though, I am nearly prepared to accept that the price is justified. It also costs £2.00 to start a game and the rulebook costs £3.00. The ACE rating is lower because of the cost, which might exclude many younger players.

COMPLEXITY 9 ENJOYMENT 5
PRESENTATION 7 SKILL 8
ACE RATING 6

CHRONICLES

Jade Games

In the last year or two, several computer moderated fantasy games have appeared, and these now present a credible alternative to the older, human-run, games. Jade has brought out not one, but two such games or rather two versions, the 100-player *Chronicles of the Knights of Avalon* and the 500-player *Chronicles of King's*.

I found the rulebooks brief and a bit vague about the player's role in the game. So far as I can tell, each player starts as the ruler of a province with five armies at his command. Each province is 50 miles square and there are four empty provinces for every player in the game.

Through conquest, settlement, trade and diplomacy, players expand their provinces and rise in rank from a lowly Squire (in charge of five armies??) up to Emperor. Along the way, players can form banks and even their own religions with the help of other players. The rank increases do not depend on province conquest but on 'experience points' gained from successful actions like this – it encourages less violent strategies.

So what does it cost? Well its free to start and turns cost a cheap 80p for the first seven orders. Sounds good, but extra orders cost 12p each so a 10-order turn would be £1.16. After turn five there is an advanced rulebook which costs £1.00, and this gives extra information and orders. I believe this book is the same for both games.

The two games are set in different areas of Avalon and the major difference, other than the number of the players, is the lack of an internal mail system in the larger game. The only way to diplome in this game is to write directly to those players whose address you receive when you meet them.

Each rulebook has a copy of the map in the centre and A1 size (huge!) copies are available from Jade. You can fill half a bedroom wall with these. They are only black and white, but well-drawn, and they make mapping easier. Perhaps Jade would consider producing A1 size gridded tracing paper to go with the maps.

COMPLEXITY 7 ENJOYMENT 7
PRESENTATION 7 SKILL 6
ACE RATING 8

SPECIAL DELIVERY

Crasimoff's World has been taken over by Crasiworld and is now run entirely by GM Andy Smith (not of ACE!) from the new address below. Former GM Mark Dulson likes the post office so much, that he now works for them, delivering post instead of creating it!

The new address for Crasimoff is **4 Crescent Avenue, Cleveleys, Blackpool, FY5 3JE.** I haven't seen anything of this game yet, though I know its one of the oldest UK fantasy campaigns and was originally run by KJC. I believe it is undergoing revisions following the take-over.

*****

Still with KJC (come on some of you others, tell me what's happening!),' *Troll's Bottom*, mentioned in the June ACE, has now got over 2,100 players, with 30 games started. Our ACE reviewer isn't doing too well and should be reporting next issue.

I've received several letters, including some from editors of Fanzines. These are amateur magazines dedicated to providing extra information about pbm games, along with poetry, letters, fiction and general things. I hope to cover some in a future issue, so if you write one, drop me a copy.

*****

Until next time, may all your orders arrive safely.

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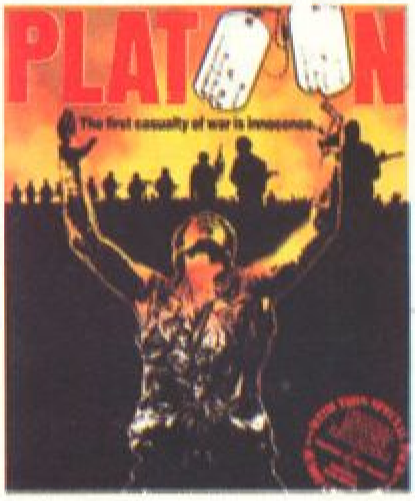
PLATOON
The first casualty of war is innocence.

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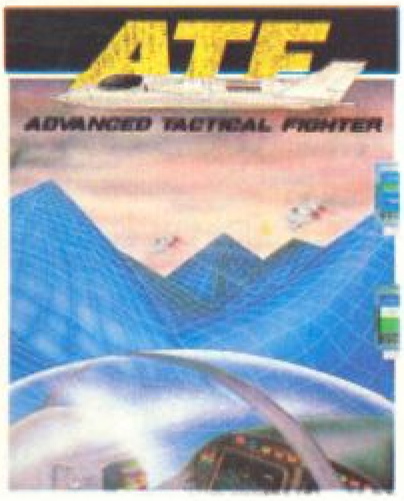

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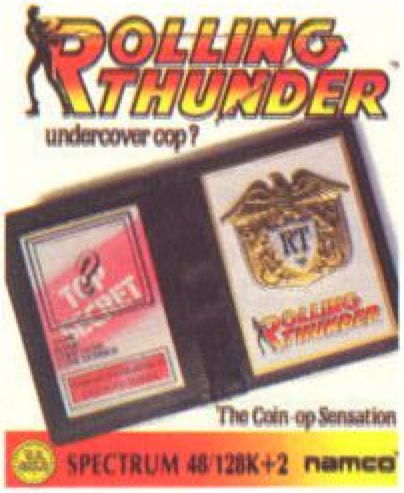

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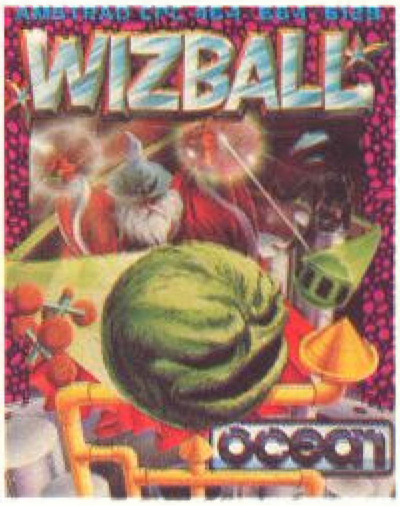

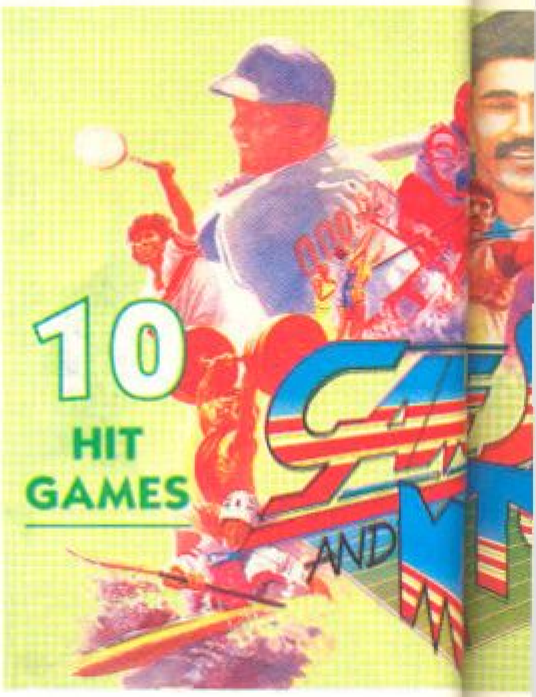

GAME SET MATCH

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(In addition to those elsewhere)

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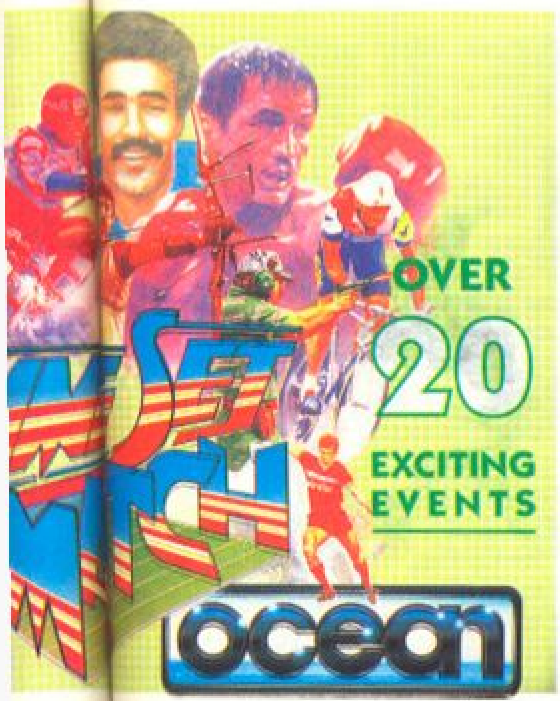

● AMIGA TITLES

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Jinks is an incredible addictive bounce-em-up, **World Games** is the Epyx sports classic, **Hardball** is a great baseball simulation, **Leaderboard** the definitive golf simulation, **Interceptor** is a superb combat flight-sim.

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● IBM PC TITLES

(In addition to those elsewhere)

These leading games should also run on Amstrad PCs and other compatibles. **Elite** is the definitive space trading and combat game. **Tomahawk** is a sophisticated flight simulator, **Hardball** a great baseball simulation, **World Class Leaderboard** the definitive golf simulation, **Jinxter** is an adventure, **UMS** a wargame, **Tetris** an addictive puzzle

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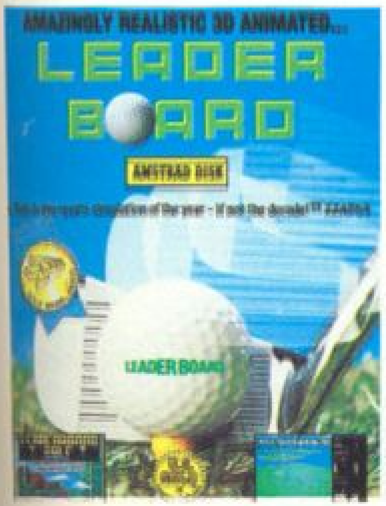

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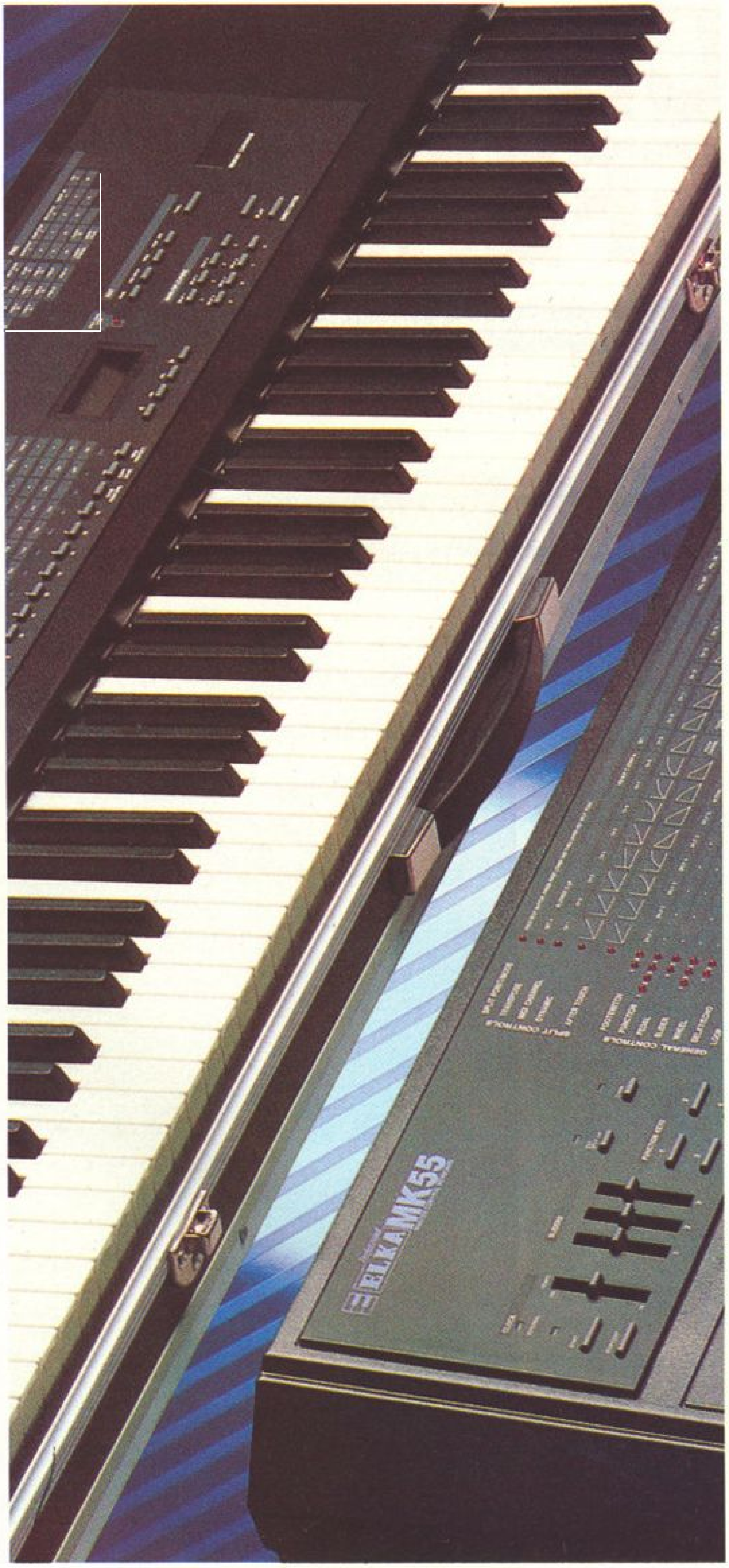


No-one wants to spend more money than necessary in setting up a decent home music studio. Inevitably, though, you'll want more than one MIDI synthesiser or sampler – maybe even three or four. The problem is that at around £1000 for a decent full-sized keyboard, many of us can't even afford one!

A computer-based system which can handle your sequencing, patch editing, and even functions such as scorewriting, is part of the solution. Obviously, you could also save money by avoiding unnecessary duplication of equipment, and the magic of MIDI can make one of the most expensive, bulky parts of a synth – the keyboard itself- redundant. Increasingly, the best way to save money and space is to forget the idea of buying multiple keyboards, and invest instead in a single controlling 'master' or 'mother' keyboard, and several keyboardless MIDI sound modules.

That's the theory. In practice, though, the UK market for master keyboards has been slow to take off. The first Japanese products from Korg, Yamaha and Roland were too pricey to make any impression, and it's only with the advent of Cheetah's MK series keyboards that the idea has become practical to musicians on a reasonable budget.

Most of you will know that Cheetah started off in the home computer market, and broke into music through the popular SpecDrum digital drum machine add-on for the Sinclair computers. Now the Cheetah music range includes MIDI keyboards, drum machines, sequencers, drum kits and synthesisers.

The keyboards are particularly impressive, because they are such amazingly good value for money compared to Japanese and American competitors. In fact, the most expensive Cheetah keyboard now costs less than the cheapest from rival manufacturers!

WOSSITDO?

What exactly is a master keyboard used for? Put simply, it produces no sounds, but generates MIDI signals which control sound-producing keyboardless modules. These signals include pitches, performance features like pitch bend and vibrato, and patch change instructions which tell the 'slave' synth which sound to play.

Practically every new synthesiser produced now appears in a cheaper keyboardless modular form too; for instance the Yamaha DX11 and the TX11 and the TX81Z module, the Roland D10 and D110 module, and the Ensoniq Mirage sampler and Mirage M module. Some units, such as the popular Akai S900 sampler, are only available in modular form. By setting each module to respond to a different MIDI channel, a single master keyboard can control sixteen or more synths.

Of course, you also need a good keyboard if you're programming a sequencer. Many synths, even fairly expensive ones, have relatively poor keyboards which soon become tiring to play, so it makes sense to invest in one good master keyboard instead.

BUDGET IVORY

A master keyboard can enable you to control a host of MIDI-compatible systems, from synthesiser modules to drum machines. Up till now, however, they've been priced out of the range of all but the enthusiastic professional. CHRIS JENKINS looks at Cheetah's latest range – expensive it isn't...

THE GOODS

Cheetah's basic keyboard is the MK5, discontinued, but still available. This £99 unit is the absolute minimum you'll need to control a synth module. It features five octaves of full-size keys, a pitch bend wheel, and buttons to change the sound program, or 'patch' of the synth module you're controlling. It doesn't have velocity response, so it won't play louder if you hit it harder; it doesn't have aftertouch, so it won't bring in a performance effect if you press the keys down; and it doesn't have a modulation wheel, so you can't introduce, say, a vibrato as you play. But it is cheap, and – remember – it works with any MIDI synth module, from the cheapest to the most expensive.

The MK5's slightly enhanced replacement, the MK5II, costs £199. More interesting is the next model up – the more professional £275 MK5V. As you'll guess from the name, its main extra is Velocity sensitivity. If your synth module is velocity responsive, hit the MK5V harder and it will play louder, or brighter, or however you have programmed the synth to respond. This feature is a must if you want to develop any real playing technique.

The Steel-cased MK5V also features pitch bend and modulation wheels, and a more professional 'bank/patch' control pad. This allows you to select the sound you want from the slave module by pressing one control key for the 'section' (A or B), one for one 'bank' (1 to 8) and another for the 'patch' (again, 1 to 8). This gives a total of 128 selectable patches, and most new synths will respond happily to this arrangement.

Three dedicated keys control the MIDI channel on which you're playing, move the playing pitch up or down an octave (giving an effective range of seven octaves), and put the keyboard in patch select mode. A two-digit red LED display keeps you in touch with what's going on. The MK5V is fully polyphonic, so your synth module will play happily whether it has six, eight, ten or more voices. The one thing you can't do is change the velocity response to suit your playing style; if you want this feature, you have to go for the top-of-the-range MK7VA.

HIT THE HIGH NOTES

The MK7VA is an amazing bargain at £399. If you think that's expensive, bear in mind that the cheapest rival seven-octave full size keyboard, the Italian Elka MK88, costs £1029!

The Cheetah MK7VA doesn't have some of the complex features of the Elka, but it's pretty stunning nonetheless. The seven-octave full-size keyboard has a weighted action, and responds to velocity, aftertouch, and release velocity. It can be split into four separate playing 'zones', each of which can be assigned its own MIDI channel, synth patch number, MIDI effect controller type, pitch bend and modultaion response, upper and ower note limit, MIDI OUT socket (there are four, one for each zone) and so on.

There are also overall parameters for velocity response (1 to 999), default pitch, type of footswitch controller, and so on. All this information can be saved in one of eight on-board memories, and recalled at any time. While many of the control buttons serve several functions, there are dedicated buttons to switch the zones on and off and to switch on the sustain function of each zone. The MK7VA also features MIDI IN and THRU sockets, and a MIDI MERGE function, so you can play the keyboard while the sequencer is playing your modules through it. This means that you don't have to spend money on a 'MIDI merge box'.

CHEETAH MK7VA

1.Cheetah's MK7VA offers a stunning specification for the price. It may not look as sexy as the Elka units pictured elsewhere on this page, but that doesn't seem so important when you realise it only costs £399.

CREAM OF THE CROP

If money's no object, you could spend as much as £1500+ VAT on a master keyboard such as the Kurzweil Midiboard, a wooden, weighted 88-note instrument designed for players brought up on Steinway grand pianos.

The most advanced master keyboard, though, is the Elka MK88 at £1029. Features include seven octaves of weighted keys, six playing zones, 64 on-board memories on cartridge, seven programmable MIDI controller sliders and switches, four MIDI out sockets, and a clock facility for driving an external drum machine or sequencer.

The Elka MK88 and MK55 - luxury for a grand plus...

2.The MK5V - velocity sensitive keys plus modulation and pitch-bend wheels - a host of features for £275.

One particularly welcome facility is the MK7VA's ability to display the velocity at which you are hitting the keys. No more surprises when you play back a sequence and find it twice as loud as you thought you'd played it!

So what kind of effects can you achieve with a keyboard as powerful as the MK7VA? You could program two synths to respond to the whole keyboard range, but with different velocity responses so that as you play harder the sound fades in under the first. You could then switch to a program in which the keyboard is split in half, so that the lower half plays string chords while the top half plays a lead synth sound. For a finale, try setting up a program which puts a kit of sampled drums on one octave of the keyboard, synth bass on another, brass stabs on two more and a saxophone sound on the top three.

Cheetah's future plans for the music market include the MS6 synth module, ideal for use with the MK7VA. The MS6 is a sound module with two oscillators per voice, mixable wave forms, velocity and aftertouch response, 256 preset sounds and 128 programmable memories. It's also multi-timbral, so you can play up to six single-note sounds at once. At £274.95, you'll still pay less for an MK7VA keyboard and MS6 synth module together than you would for some less well-specified Japanese synths.

● **Cheetah Marketing, Norbury House,**
Norbury Road, Fairwater, Cardiff CF5
3AS Tel: 0222 555525

LA LORE

The latest synth module ideal for use with a MIDI master keyboard is the Roland D110. It is a professional version of the MT32, reviewed in ACE issue 3.

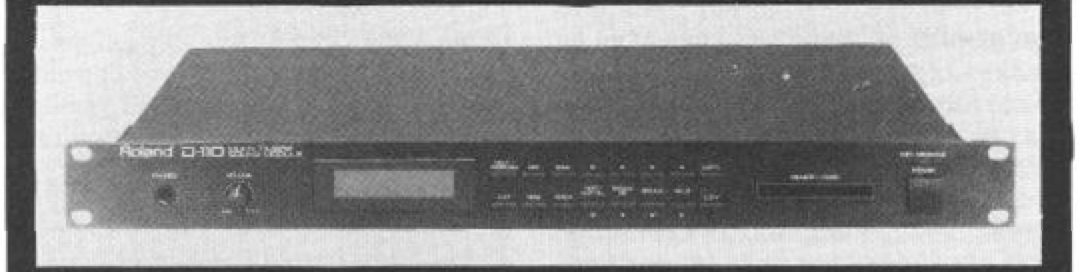
Like MT32, the D110 uses 'linear arithmetic synthesis'. This is a combination of sampled 'attack' sounds and synthesised 'sustained' sounds which give incredibly powerful and realistic results. It has a built-in digital reverb, a selection of sampled drum sounds, and it's multi-timbral, so it can play up to eight sounds at a time under keyboard or computer control.

Unlike the MT32, the D110 fits in a standard 19-inch studio rack: has six sound outputs for separate mixing and effects, rather than just two; has a slot for plugging in sound memory cards; and you can edit the sounds from the front panel or an optional hardware programming box, rather than having to buy a software editing package as you can edit the sounds from the front panel or an optional hardware programming box, rather than having to buy a software editing package as you do with the MT32.

There are 128 preset sounds and 64 programmable, and the D110 has some astonishing built-in demo tunes, too. Check out the manic version of Flight of the Bumble Bee, the incredible drum solo in the jazz demo, and the realistic Jamaican reggae demo.

RRP is a very reasonable £586, so the D110 is an ideal complement to any computer-based sequencing system.

● Roland UK, Amalgamated Drive, West Cross Centre, Brentford, Middlesex,
TW8 9DN



Roland's D110 synth module uses the same system as the incredible D50 and the multi-timbral MT32.

PC WONDER BOARD

Fancy plugging a full-spec FM synthesiser into your PC? Audio Digital Technology are bringing out a new expansion card for PC compatibles offering a built-in MIDI port and Yamaha synth circuitry that can produce 336 different stereo FM generated voices with 8-note polyphony.

Called the IBM Music Feature Card, the unit comes with editing software and is the result of collaboration in the US between IBM and Yamaha, but will be distributed exclusively in this country by ADT.

Additional software available separately to accompany the unit includes Yamaha's *Playrec* program which gives simple 4-track sequencing options together with up to 64 automatic accompaniments, of which 32 can be user defined.

Alternatively you could try Yamaha's *Compose* software, which gives up to 8-part composing ability together with printing, control of the Music Feature card, and the option to import data from real-time performance. The Music Feature card is also compatible with some professional MIDI packages – the Texture 2.5 Sequencer, for example, and Notation.

All this will set you back £395 (inc. VAT), which is by no means cheap – but then MIDI equipment for the PC never was. When you consider that you can pay around £180 for a MIDI interface alone, the package begins to sound more attractive. Contact ADT on 01 977 4546.

NEXT MONTH

Next month sees the beginning of a new-look music section for ACE. We'll be introducing our new Consultant Editor who'll be on hand to answer your queries each month, and will bring you all the latest music news and reviews in each issue. And don't forget – if you want to shape the new section, make sure you fill in the questionnaire on page 100 – and you could win a prize into the bargain!

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THE EDITORS

We have editors/libarians for all of the following, by various companies including STEINBERG, HYBIRD ARTS, DR.T SOUNDBITS TIGERESS DESIGNS AND DRUMWARE, prices start from:-

ROLAND D110	£99.00	YAMAHA TX81Z	£69.95	PROHPET 2000/2002	£285.00
ROLAND MT32	£85.95	YAMAHA DX21	£49.95	EMAX	£285.00
ROLAND D50	89.95	YAMAHA DX27	£49.95	ENSONIQ MIRAGE	£150.00
ROLAND ALPHA JUNO	£69.95	YAMAHA DX100	£49.95	ENSONIQ ESQ	£99.00
YAMAHA DX7 MKI	£99.00	YAMAHA FB01	£99.00	ENSONIQ ESQ80	£89.95
YAMAHA DX7 MKII	£150.00	YAMAHA DX11	£69.95	KAWAI K3	£99.00
YAMAHA TX816	£99.00	AKAI S900	£229.95	KAWAI K5	£99.00
YAMAHA TX802	£150.00	AKAI S612	£159.95	MATIRX 1000	£99.00
YAMAHA TX7	£99.00	AKAI S700/X7000	£179.95	KORG DS8	£99.00
				CASIO OZ RANGE	84.95

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YOU CAN DO IT!

..help decide what goes in the magazine, that's what. We don't just sit on our backsides here in Bath and write whatever takes our fancy, you know. We do our level best to make sure that what's on these pages is what YOU want to read – and you can help us by filling in our latest reader survey below. We'll reward you by offering five lucky readers an ACE 900 rated game for their machine absolutely free.

1. BE HONEST!

Are you:
☐ Under 12 ☐ 13 to 15 ☐ 16 to 18 ☐ 19 to 25 ☐ 26 to 35 ☐ Over 36

2. SPECIAL INTEREST

Are you: ☐ Male ☐ Female

3. CHOOSE YOUR WEAPON

Which of the following computers do you own or plan to buy.

Own Might buy
- ☐ ☐ Atari ST
- ☐ ☐ Acorn Archimedes
- ☐ ☐ Spectrum
- ☐ ☐ Amstrad 464/664
- ☐ ☐ Amstrad PCW
- ☐ ☐ Apple Macintosh
- ☐ ☐ MSX

Own Might buy
- ☐ ☐ Commodore Amiga
- ☐ ☐ Commodore 64
- ☐ ☐ Spectrum +3
- ☐ ☐ Amstrad 6128
- ☐ ☐ IBM PC or compatible
- ☐ ☐ Atari 400/800
- ☐ ☐ BBC/Electron

☐ ☐ Other (specify): ....

Peripherals:
- ☐ ☐ Modem
- ☐ ☐ Video camera
- ☐ ☐ Graphics tablet/light pen
- ☐ ☐ MIDI Interface
- ☐ ☐ MIDI keyboard or other MIDI musical equipment

Is your system cassette loading only? Yes ☐ No ☐

4. A BIRD IN THE HAND...

Please indicate your level of interest (High, Medium, or Low) in the following sections of THIS issue...

H M L
- ☐ ☐ ☐ News
- ☐ ☐ ☐ Previews
- ☐ ☐ ☐ Arcades
- ☐ ☐ ☐ Screen Test reviews
- ☐ ☐ ☐ Adventures
- ☐ ☐ ☐ Tricks'n'Tactics
- ☐ ☐ ☐ Play By Mail
- ☐ ☐ ☐ Random Access
- ☐ ☐ ☐ Blitter End
- ☐ ☐ ☐ Pink Pages Software Guide

H M L
- ☐ ☐ ☐ Competition
- ☐ ☐ ☐ Graphics
- ☐ ☐ ☐ Flare micro feature
- ☐ ☐ ☐ Pink Pages Hardware Guide
- ☐ ☐ ☐ Frustration games feature
- ☐ ☐ ☐ Music
- ☐ ☐ ☐ Letters
- ☐ ☐ ☐ Readers' Pages
- ☐ ☐ ☐ Who's bad?! programmers feature

5. TIME FOR NOSTALGIA

Rate your interest as High, Medium, Low, or Don't Know (i.e. you didn't see the feature concerned) in the following features that have appeared in recent issues of ACE:

		H M L Don't Know	
Ace 10	July	☐ ☐ ☐ ☐	**Hack Attack!** Hackers – what they do and why.
		☐ ☐ ☐ ☐	**License to Thrill** – The games licensing game
Ace 9	June	☐ ☐ ☐ ☐	**American Issue**
Ace 8	May	☐ ☐ ☐ ☐	**Life Games** – Evolution and intelligent aliens
		☐ ☐ ☐ ☐	**Silicon Spires** – ACE goes to Cambridge
Ace 7	April	☐ ☐ ☐ ☐	**Break the Bank** – Computers and Gambling
		☐ ☐ ☐ ☐	**Progress or Points?** Games Psychology.
		☐ ☐ ☐ ☐	**Into the Maelstrom**...Mike Singleton talks...

6. YOUR PERSONAL, MOST INTIMATE HABITS...

Apart from games, do you use your micro for:
☐ Word Processing ☐ Business ☐ Graphics applications ☐ Musical applications

7. YOUR INNERMOST DESIRES...

What sort of games do you enjoy playing? Rate your interest in the following categories (High, Medium, or Low)

H M L
- ☐ ☐ ☐ Coin-op conversions (e.g. *Salamander, Nemesis*)
- ☐ ☐ ☐ Original shoot-em-ups (e.g. *Plutos, Backlash*)
- ☐ ☐ ☐ Arcade adventures (e.g. *Black Lamp, Terramex*)
- ☐ ☐ ☐ Strategy games (e.g. *Overlord, Lords of Conquest*)
- ☐ ☐ ☐ Puzzle games (e.g. *Bonecruncher, XOR*)
- ☐ ☐ ☐ Adventures
- ☐ ☐ ☐ Simulations (e.g. *Flight Simulator II, Tomahawk*)
- ☐ ☐ ☐ Role-playing games (e.g. *Ultima IV, Bards Tale*)
- ☐ ☐ ☐ Mind games (e.g. Chess)

8. NAME DROPPING

Name your favourite entertainment program: ....

9. HACKING HABITS

Do you: ☐ Program in BASIC or another high-level language
☐ Program in assembler ☐ Not program at all

10. THE CREATIVE BIT

In not less than one word, give us your comments on ACE together with any suggestions you might like us to consider. Use a separate sheet of paper if necessary...

Post to: **ACE Survey, 4 Queen Street, Bath BA1 1EJ**

YOUR NAME..

ADDRESS..

....

....

....

....

To qualify for the prize draw, entries must reach us by 12th August 1988

ACE LETTERS

You thought the Spectrum was dead? Then think again! Not only are ACE's readers firmly behind Uncle Clive's little beaut, but they're sick up to here with machine vs machine bigotry too.

Other burning issues of the month include software prices (are we getting ripped off?), disk drives (are they supposed to do that?) and most importantly of all, cricket (Owzat?!!). There's more: should you bin your micro? should you use it as a doorstop?

But why not read 'em for yourself, and then tell us what you think: write to ACE letters, 4 Queen Street, Bath BA1 1EJ. There's fame, glory and software to be won, and all for the price of a stamp. Why not fill in the Questionnairre on page 100 while you're about it - and help us make ACE an even better mag!

EA + FTL = ST F/A-18?

I cannot believe it, I have just finished reading your screen test of 'Interceptor' in issue ten of ACE. By the time I had finished I was drooling then Oh no!! What do I see, in the release box "no other versions planned". I cannot understand why E.A and FTL don't get together and swap some ideas about programming STs and Amigas. I mean there must be an almost equal number of Amiga owners out there drooling over Dungeon Master and that's a pretty big market by anyone's standards so come on ACE, try pulling some strings.
disgruntled ST owner.

M.D. Collins
Basildon

We'd love to see Amiga Oids or ST Interceptor, but pulling strings in Silicon Valley can be a bit difficult from this side of the Atlantic, even for the globe-trotting ACE team. The sad fact is, in the States both the ST and Amiga are minority machines living in the shadow of IBM compatibility. Many of the really great games they do get are produced by speciality houses with a particular fondness for one machine or the other, and aren't necessarily written with transfer in mind. Interceptor *is a case in point, having been closely tailored to the Amiga's sound and graphics capabilities, so conversion to the ST might not be a picnic or give such impressive results. Still, I'm sure programmers on both sides of the Ocean will learn the valuable lesson it offers on blending realism and gameplay.*

WOT, NO TAPE?

Not for export, the cover on your June mag reads. I'm disappointed. All of a sudden ACE becomes selective towards its readers.

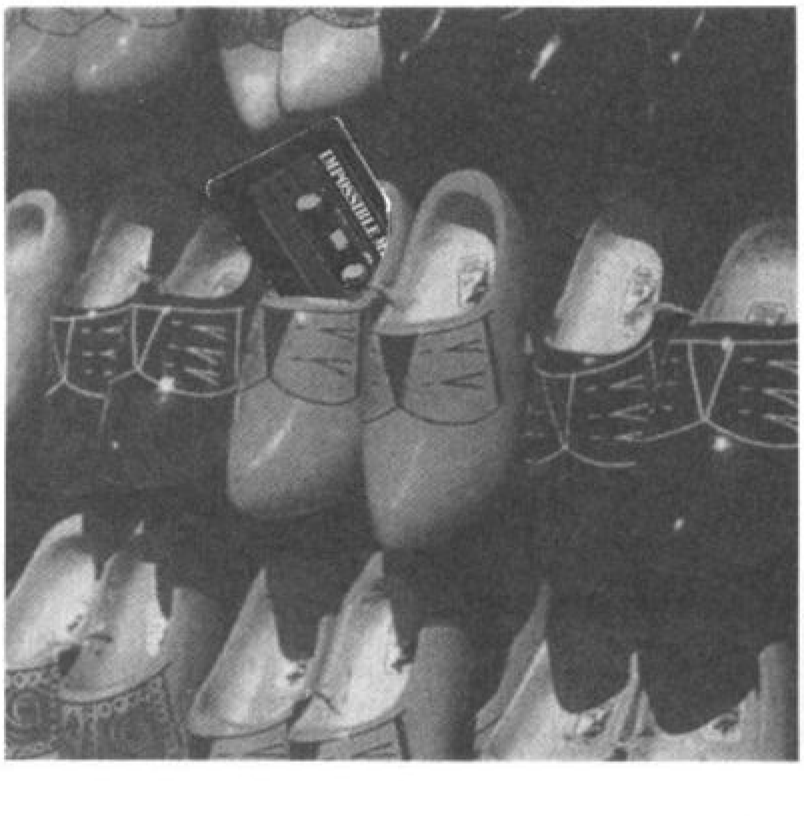
The overseas readers who are avid ACE fans, (they must be, for they are paying far too much for your mag) are left out when you start giving games away, but they all have got the ACE card!

Make up your minds down there. Let us in on everything or leave us out. You should do best if you take a look at other mags and let them teach you a lesson in overseas readers handling.

And if that doesn't work, well nothing is lost, really. You could rename yourself OFER (only for English readers) for instance. Because if there is one thing I - and certainly a lot more overseas readers - can do without, it is an overpriced mag that was once good value, but once established became a pain in the ass.

Eduard Bock
Delft, Netherlands

We'd have loved to bring all you overseas readers Impossible Mission, *Eduard, but unfortunately we didn't have much say in the matter. For copyright reasons we could only distribute the freebie cassette in the UK, so it was either that or abandon the give-away entirely. We let overseas ACE fans in on all the extras we can, but it'd be a shame if everyone missed out when we can give most of our readers such a good game.*



● ST = SKODA?

I have just read the letter entitled 'Obliterated' in your July 1988 issue, and am writing to disagree most strongly with Greg Bowen, and with the review in ACE. I bought 'Obliterator' for my Amiga recently, and think it is simply the best game I have ever bought.

Everything about the game is superb, especially the sound, (although as Greg Bowen only owns a humble ST he probably was deprived in this area). As for the game being too easy to complete, I spent several evenings playing it, mapping it, and most importantly, enjoying it. I admit that I completed it quite easily, but surely that is the point. I always find that most games are far too difficult and I get bored before I complete them. The complaint that it was £25 and only took 4 hours to complete is ridiculous, many films on video cost at least that much and last only 2 hours. Attitudes like this are typical of ST owners, who seem to be interested in nothing except low prices.

While I am on the subject of the Atari ST, I would like to comment on the latest bribe being offered by Atari to get people to buy ST's. Twenty-two free games with every ST sold. 'There"s no catch' says the advert. B*****! What about the £100 increase in price? If that's not a catch I don't know what is. I can't really blame Atari though, this price increase brings the ST right into the Amiga price bracket, and lets face it, who would buy an ST at the same price as an Amiga? It's like trying to sell a new Skoda at the same price as a new BMW by offering free petrol! No doubt all the people who will flock to take Atari up on this amazingly generous 'free' offer won't see it this way, but will they feel so pleased when they get bored with their free games? I doubt it.

Anyway, if you are still reading, thanks for putting up with my (rather biased) views. I won't be surprised if you can't risk offending all of those ST owners who read your magazine. I didn't include my name or address for similar reasons!

Sputnik

We at ACE reckon that everyone's entitled to their own opinion when it comes to games. That said, your liking for this particular Psygnosis offering is little short of mystifying. The sound may have been excellent but the animation was well below par for 16-bit machines and the controls were pretty poor too.

It's the gameplay bit that's really got me wondering though: if wanting more than 4 hours' play out of a £25 game is 'typical of ST users' then I'd say that makes them a pretty smart bunch. A typical film on video nowadays costs under £10, and should be worth watching at least half a dozen times at say 90-100 minutes a time. That works out at about £1 an hour, which is fair-ish value these days. Compare that to £6.25 an hour for Obliterator – assuming you won't want to play once you've completed the game – and the video really looks like a bargain. (Of course you could buy a tape of a film you only wanted to see once, but most people would hire instead at something like £1.50 to £2 for the evening, making it again around £1 an hour.)

We don't mind offending ST users or anyone else for that matter – what else are letters pages for? – but I don't really think you can get away with the Skoda/BMW comparison. Amiga games may have the edge on sound and the subtlety of the colours used, but otherwise they're typically very close to their ST counterparts.

NOT REALLY CRICKET

PRIZE LETTER

Many many years ago, I owned a C16 (argh!) and I started to buy 'Commodore User' but then, when seeing the 64 graphics I decided to upgrade it. Now though, I have a problem: should I stay faithful with CU which is getting more and more Amigarised by the minute or shall I turn over a new leaf and buy ACE with free games such as "Impossible Mission" and "Spindizzy"?

There is only one way to resolve it I thought to myself and loaded up "Graham Gooch's Test Cricket" Over now to Richie Benaud with the results: 1st Inns. CU: E Bishop top scoring with 10 with T Gilham taking 3 wickets, A Neal and S Meddings taking 2 each and A King with 5 superb catches. CU total 36 all out. 1st Inns ACE: A Smith top scoring with 51 with help from A Wilton scoring 37 and P Connor scoring 35.

ACE total 136 for 3 declared. 2nd Inns CU: M Pattenden top scoring with 10 with S Meddings taking 3 wickets, A Neal taking 2 and B Wade 4 in 1 over!

CU total 25 all out. ACE wins by an innings and 76 runs!

Now I can rest with the knowledge that next month I will go out and buy the most wonderful magazine around with news, reviews, and hopefully more free games, ACE!

David Hart
Chelmsford

PS. Couldn't you spice up your front covers a bit?

Spice them up? Grrrr!!! T.Gilham is on his way over to Chelmsford right this minute, cricket bat in hand. As for beating CU in such convincing fashion, we put it down to getting a good night's rest before the match. (We don't want any 'Pete Connor's Steamy Secrets: Barmaid Reveals All' stories in The Sun now, do we!)

TOTALS

ACE 136 DEC
CU 36 LMAN 10
PLAY ON
CU 25 ALL OUT
ACE WIN BY INS. & 76

● WOT, NO GAMEPLAY?

My subject is the game **Carrier Command** and the apparent failure of reviewers to give a true picture of this game. Up to now I have been impressed with the coverage ACE has given of computer gaming, but I grow less content.

Let me explain exactly what I mean with reference to *Carrier Command*. It is on the face of it an excellent game, a worthy contender for the title 'Game of the Year'. But it is flawed in a very serious way, unless of course I have missed something. My problem is the amount of time it takes for the carrier to get between islands, or rather the lack of anything to do while it sails. It can take five minutes to get between some islands, that's five minutes of blank empty seas. Now I play games to be entertained not bored. Yes I realise that real carriers do spend long boring hours cruising around but then I thought EPSILON was fantasy. Surely play testing would have revealed this problem with the game. So my plea is that reviews should look behind the surface gloss of games and examine the gameplay. Graphics and presentation are important but they are nothing without good gameplay. Could the game not contain a time accelerator for those boring cruises?

So I ask for your comments, perhaps you do not agree with me and like the minutes of empty blue sea scape. For myself a game that lets me play it and write this letter at the same time can not be the classic you suggest it is.

Ian Black
Wantage

Two things immediately spring to mind here: first, are you hauling your drones in before setting sail? Failing to do so can slow you down a great deal. Second, are you sure you've got an up-to-date version of *the game? The tips you sent with your letter mention continually running out of fuel, one symptom of pre-production bugs already ironed out in the version we reviewed. You'd be well advised to contact Rainbird about this: with a superceded version you're short-changing yourself and the game. On the general point, rest assured that we play games very thoroughly indeed here. Though CC certainly does have plenty of surface gloss, there's a solid foundation of gameplay underneath that had us all enthralled. We're confident most gamers will agree with us if they've got the finished versions in front of them.*

DON'T SLING IT!

I haven't really got any major subject to write to you about, so I will cover several subjects in this letter (Make you earn your wages).

Firsly, a bit of advice. I would advise anyone thinking of upgrading to a 16-bit to keep their old computer, say Spectrum or C64. The reason for this is pretty obvious; it being the extortionate price of Amiga and ST software. At prices of £15 to £30 a time your software collection is not going to get too large, unless you resort to pirating, which will only end up in the prices increasing more often. Personally, I soon hope to be getting an Amiga, but will not be selling my old, faithful Spectrum 48K.

Talking of 16-bits what happened to the great price drops we were supposed to be seeing in early '88? The ST has gone up £100. a more localised point now, or maybe not? Living in Slough I have always enjoyed easy access to large amounts of software. We used to have three shops: Boots, WH Smiths and an independent software shop. Since about January of this year however, the indie shop has become business only, Smiths seems to only have oldish budget software and even Boots does not stock all the new titles. I have now taken to mail order buying, which is very cheap but usually involves waits for up to four weeks or more. What I would like to know, through your letters page, is whether this is a local problem or a larger scale one.

In the July issue the Editor, when replying to a letter from A White said that no version of GAC was available for the ST. In the June issue you carried a full review of STAC, which is precisely what the letter writer wanted. Doesn't the editor read his own magazine!!!

Lastly, please never compromise to idiots who want rubbish like film reviews, garish cartoon covers etc etc, let them read the already plentiful amount of second rate magazines which do this.

Patrick Walsh
Slough

(Earn our wages? What cheek!) We'd certainly agree with you on keeping your old machine – many's the time I pine for the old Vic 20 and a quick blast on Spiders of Mars *– but a lot of people just don't have the choice. If the only way you can upgrade is to sell your aged Spectrum or long-in-the-tooth C64 then it's just not an option open to you.*

Read the magazine? I'm too busy writing it, mate!

*As for your last point, we don't know the meaning of the word compromise. (Where's that ***** dictionary?)*

DISK DRIVE DILEMMA

Please! Please print this letter my brain will be very unsettled about my Amiga 500. When I got my Amiga I though the software was amazing, the sound incredible, but the disk drive extremely noisy. At first I took no notice of this because I thought all Amigas were like this until my friend bought an Amiga 500. SHOCK, HORROR his disk drive was quiet! Why is his disk drive quiet and mine not, and why does Sidewinder load on his computer and loads on mine but the sprites flicker? Also do you know of anything or anywhere I could make my disk drive quiet? Please answer my letter because I am very concerned.

Michael Griffiths
Stockport

The disk drive noise probably isn't anything to worry about. Drives often vary in the amount of noise they make – we get the same thing here with STs – and in any case, a noisy Amiga drive seems to be the rule rather than the exception! (Pauses briefly to deal with sudden influx of hate mail from Amiga owners.) Oddly enough, experiments here at ACE show that you're not the only one with flicker problems on Sidewinder. *While it runs fine on one of the two A500s in the building, it flickers dreadfully on the other. We asked Melbourne House/Mastertronic why this should be, but they couldn't come up with an explanation. Hmm...*

DISK DRIVE DELIGHT

On May 5th of this year I bought an Atari 520STFM from "Datanest" in Leicester for £279. Nothing strange you might say but, a couple of nights ago I decided to format a disk to double side to see waht would happen. And guess what? It worked!

I then put over 500K worth of stuff on and all of it loaded back, no problem. This has led me to the conclusion that I have a double sided disk drive which for a 520 must be pretty rare.

Do I possess a unique machine or does Atari often put double sided drives in a machine that's supposed to have a single sided drive?

Is there an easy way to see how much memory I have to see if I have to see if I have a 1040 in a 520 case?

I await your answers with interest.

Mark Weston
Melton Mowbray

The simple answer is that you do have a 520, it does have a double-sided drive, and this isn't at all unusual any more. Shortly before the unwelcome £100 price rise, Atari took the very sensible and thoroughly praiseworthy step of upgrading the 520's drive to 1040 standard, without actually telling anyone. Why the modesty about improving a machine they're suddenly charging more for anyway? Probably because the buying public has such a history of reacting badly to such things. Remember the flak Amstrad got when they ditched the 664 and started selling the far better 6128 – even though the 664 had been excellent value itself? Well, my guess is that Atari didn't feel like getting clobbered unfairly for 'letting down owners of old-style 520s'.

THAT'S ENOUGH BIGOTRY

PRIZE LETTER

Are you all sitting comfortably? Then I'll begin. First off congratulations on an attractive, well written interesting magazine. It knocks my previous monthly reading fodder into a cocked chapeau.

Believe it or not (as the case may be) I'm not going to moan and winge about the (non) lack of reviews for my particular computer. Nor will I spare a word for piratism – I'm sure that you're becoming pretty 'pig sick' of that tedious ol' chestnut.

Anyway, enough of this merry banter and onto the real point of my letter. (Trumpets and drumroll) I'm slowly but surely getting more than a little narked by all of this Commodore 64 versus Spectrum rumpus. I'm not about to divulge which of these machines I happen to own, suffice to say it's one of the two.

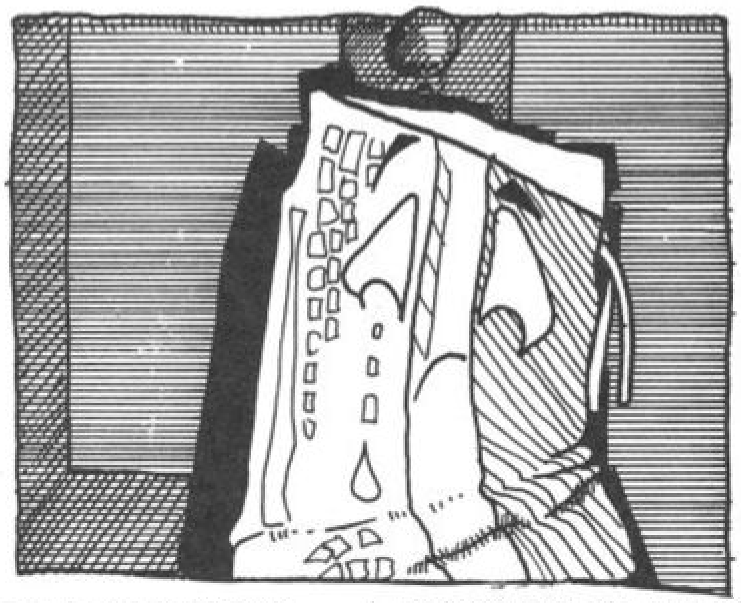
To be brutally frank, both machines are extremely 'long in the tooth' and nigh on technically antiquated. However, neither of the old dears can quite be certified 'dead' just yet. Their respectively vast user-bases will, I think, guarantee software production on a large enough scale for at least another two years. I'm glad that you printed Seymour Lightman's letter as I am now quite relieved that not all your readers are obstinate raving bigots.

Let's keep this thing in perspective, we are, after all, only talking about a handful or two of semi-conductors tucked inside a moulded plastic case aren't we?

Okay, sermon over. Now if we have any more of this ridiculously immature anti-that, anti-this nonsense then I'll give the lot of you a slap across my knee. I mean it, I really do. I conclude , I must admit that I would have to be infeasibly naive that my thrupence-worth of opinion will make any impression on much of your self- righteous readership.

Adam Wilde
Leicester

It'd be nice to think that was the end of all this micro-tribalism we've been plagued with recently, but this kind of thing's been going on so long it'll probably take more than a few letters from the likes of Seymour and Adam to stop it.



THE PRICE IS WRONG

Ask any ardent 8-bit owner why he won't upgrade to a 16-bit machine and he will invariably tell you that the price of games on these machines are far too high. As an Atari ST owner I can't argue with that line of logic, after all it's absolutely true.

When I bought my machine some 14 months ago I did so on the assumption that software prices would plummet once ST's became mass market machines. Now that there are 120,000 ST owners in this country alone, it is well past the time when software prices should have fallen. But they haven't, instead we are now faced with a concerted effort by the software houses to extract massive profits by keeping prices in the £20 – £25 range. Indeed some software houses have even increased their prices over the past year (Elite, Ocean and Tynesoft are the three names which sprint immediately to mind). Which is hardly an encouraging sign for us owners.

True, there are some games retailing for £10, but these so called budget games consist mainly of old converted 8 bit titles which sell on the said machines for £1.99. Thus £10 can hardly be termed either budget priced or a bargain.

Software houses may try to defend their ridiculously high prices by claiming that the 16 bit games are much better than their 8 bit counterparts and take more development time to complete, but this just isn't true. Animation on 16 bit machines is generally substandard, the size of the playing area is usually minute, and more often than not the games are just straightforward conversions of 8 bit games.

Anyway, back to the point, unless the software houses wise up quickly their gross profiteering is going to kill the 16 bit software industry in this country. Oh well, at least I can use my ST as a doorstopper.

If you think what I am saying is utter rubbish, then cast your minds back to when games consoles first arrived in this country. They sold reasonably well, and were soon abandoned by their owners because they couldn't afford to keep paying the high prices for software. A similar fate now looms on the horizon for the Amiga and the ST unless the software houses are fit to dramatically reduce their prices in the immediate future. How about all you software houses out there releasing some reasonably priced games for my £400 doorstopper then?

T White
Worksop

I don't know about 16-bit software prices being extortionate: those high prices are a major factor in the ST and Amiga getting the growing support from software houses that we've been seeing recently. If you can't build a large software collection, be selective: games like Oids, Interceptor, Virus *or* Carrier Command *really can be worth the extra.*

As for accusing the software houses of gross profiteering, that's not necessarily fair either. There's pressure on them from distributors and shopkeepers to keep prices up, and they've also got programmers to pay. Bear in mind, ST and Amiga programmers are still fairly thin on the ground, so they can put a rather higher price on their skills. Lower prices would certainly give sales a real boost, but only if they're for good games that actually reach the shops!

REPORTS OF MY DEATH ARE GREATLY EXAGGERATED

I see you are now running a competition wherein people send you totally stupid letters which defy all known forms of logic. In issue 10 G Ababs sent you a letter telling your readers, many of whom own Spectrum computers, to throw them away and buy another computer.

As you might have guessed by now, I own a Spectrum (48K) and have owned it for nearly four years without any major problems with it. Then along comes this moron and tells me to get rid of it for the simple reason that he does not like them.

If I may, I would like to point out a few facts.

1. I own over £400 worth of software and can quite easily walk into a major store and buy more software for it. If, as he is insinuating, my computer is 'dead' then I should not be able to do this. BUT I CAN.
2. You can still quite easily purchase a brand new Spectrum. If they were 'dead' I would not be able to do this. They are easily available – unlike the C64 which could not be found in any of the major stores in Glasgow. It seems to me that Commodore have lost all interest in the C64 concentrating mainly on the Amiga.
3. The Spectrum's graphics aren't, as he puts it, 'atrocious' take 'Driller' for example. The graphics on that are equal, if not better than the C64. The only thing wrong with it is its lack of colours which make it generally unattractive to look at.

I never usually write into magazines but on this occasion I felt I had to. I, like many other readers, am getting sick and tired of the attitude adopted by a small minority of your readers of 'my computer is God's gift to computing and stuff the rest'. I realise of course that the Spectrum isn't a prime contender for the new United States defence computer but it is a damn sight better than some other ones I could mention. If that is what happens to you when you buy a Commodore computer I think I'll stick to the Spectrum.

Finally, two quick questions;

1 What about a Best-selling computer games chart in your mag? I have to rely on other mags for this.
2. Why does every second letter in this mag come from an Atari ST owner?

Right, I'll move over to make room for the next letter. Keep up the excellent work.

Scott Hutchings
Glasgow

Why does everyone who writes to your magazine seem to take a strange psychopathic delight in putting down the Spectrum?

Glancing through your letter pages I found a whole host of letters saying how bad and out of date the Spectrum is. One "poor" person had written a letter about how deeply offended he was because someone had compared his beloved C64 with a Spectrum. One of the choice passages from this letter was, "I've always hated Spectrums and always will, mainly because of the atrocious graphics they dare to display" Another advised Spectrum owners to throw their machines away. The big question is, "Has this person every actually used a Spectrum?"

I myself am quite happy with my Spectrum (OK its got a rubber keyboard and fractionally worse graphics) but most games are a pound cheaper on the Spectrum than on the C64 or the Amstrad and about £13 or £14 cheaper than the Atari ST which is an advantage when I am faced with the prospect of having to save up 7 weeks' pocket money for "Roadblasters".

Peter Krailing
Ipswich

My my, G Ababs has stirred up a hornets' nest. You see the aggro you cause when you start slagging off other people's machines? The fact that you can still buy Spectrums doesn't necessarily mean they're alive and kicking – many burned-out or superceded models have been dumped on the market in previous years – but the continued and vigorous software support is a sure-fire sign of life.

As for Peter's point about the Spectrum being such an Aunt Sally for machine bigots, I think it does have a lot to do with not having used the machine. The similarly vintage C64 has all its strengths – sprites, scrolling, colour and sound – upfront where the casual observer can easily see them. Its limitations on the other hand only become apparent over time, so you have to know the machine quite well to slag it off accurately.

The ACE view on all this is that it's horses for courses. Different machines have diffferent good and bad points, but the main machines we cover all have a lot going for them. If you've got a machine that's good at what you like doing or playing, why worry about what anyone else has got? (Every second letter from an Atari ST owner? I think you'll find the 8-bit owners have had a rather better showing this month!)

ACE PINK PAGES

Welcome to the Pink Pages, bursting with indispensible information. A games guide updated with all the hot new software, a hardware guide to tempt you into upgrading, the latest Random Access brain-teasers and the Reader Pages, where lots of great bargains and help can be found.

ACE recommended games have all met extremely high standards of quality. We're confident that these are the very best games available for all machines and all tastes. It's constantly updated and this month there are two very distinguished new entries – *Virus* and *Dark Side*.

Sadly, the sands of time have run out for *Highway Encounter* and *Cosmic Causeway*, as they make way for the new entries. *Highway Encounter* has been there from the beginning, but even this classic game had to hang up its joystick one day. Farewell to those stalwarts and hail and well met! to the new blood.

ACE RECOMMENDED SOFTWARE

ARCADE ADVENTURES

These games usually give the player a joystick controlled character with which to explore the huge game area.

AIRBALL

Microdeal ● Atari ST £24.95dk

Multi-coloured three-dimensional arcade adventure that owes something to the Ultimate style but is years ahead in terms of graphic detail and presentation. You, as the airball in question, must negotiate corridors and rooms full of various obstacles – all spelling instant death. An outstanding rendition of a popular genre.

DUNGEON MASTER

Mirrorsoft ● Atari ST £24.99dk

A fascinating arcade adventure cum role-playing game that gives you four characters to guide through a series of dungeons on a quest to find the Firestaff. Superb graphics help to create an enthralling game that will keep you playing for a long time to come.

EAGLE'S NEST

Pandora ● Amiga £19.95dk ● Atari ST £19.95dk

This is one of the better *Gauntlet* clones, especially on the 16-bit machines. The military flavour of the arcade adventure adds atmosphere and if you like this particular style of game, you won't be disappointed with *Eagle's Nest*.

HEAD OVER HEELS

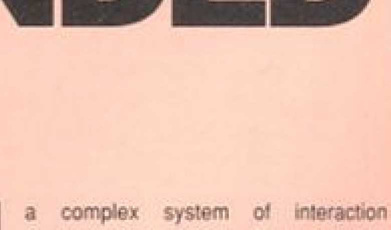
Ocean ● Spectrum £7.95cs ● C64 £8.95cs £12.95dk● Amstrad £8.95cs £14.95dk ● MSX £8.95cs ● IBM PC £19.95dk

3D exploration reaches its peak with this huge intricate masterpiece. You play two characters – Head and Heels – as you search for the crowns that will free the galaxy. The puzzles can get very difficult indeed, and you'll often have to split Head and Heels up to use their different capabilities. The game's 300 locations are wittily drawn, and the animation is excellent throughout. A real classic.

MAGIC KNIGHT TRILOGY

Mastertronic ● *Knight tyme* ● Spectrum £2.99cs ● Amstrad £2.99cs ● C64 £2.99cs ● *Spellbound* ● Spectrum £2.99cs ● Amstrad £2.99cs ● C64 £2.99cs ● *Stormbringer* ● Spectrum £2.99cs ● Amstrad £2.99cs

This trilogy is a series of menu-driven arcade adventures which, as well as all the expected running and jumping, have a complex system of interaction between characters. In *Spellbound* you must rescue Gimbal the Wizard from the fearsome Castle of Karn; in *Knight Tyme* you have to find a way back in time after being catapulted into the 25th century, while in *Stormbringer*, the final part, we find that the magic knight has been split in two, one part good, the other evil. You can't kill yourself, so the only solution is to merge the two halves. But how? Lots of action, plenty of thought and good graphics make all three winners.



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STRATEGY GAMES

The games for megalomaniacs. The games listed in this section will really test your mettle on the battlefield.

BALANCE OF POWER

Mindscape/Mirrorsoft ● Amiga £26.95dk ● Atari ST £26.95dk ● IBM PC £26.95dk ● Mac £26.95dk

Definitive strategy game for 16-bitters. The player takes the role of one of the superpowers, while either the computer or a friend takes the other. Then it's a case of trying to win friends and influence people on a global scale. This can be achieved in a number of ways, including supplying arms or financial aid to radical factions in the hope of toppling a government which is not receptive to the great American or Russian dream (depending on which side you're playing). It's complex, involving and it's difficult to play in ten minute sessions. Absorbing stuff that gives an insight into the devious world of geopolitics.

BALANCE OF POWER
Geopolitics in the nuclear age
by Chris Crawford

CARRIER COMMAND

Rainbird ● Atari ST £24.95dk ● Amiga £24.95dk ● Amstrad £14.95cs £19.95dk ● Spectrum £14.95cs £15.95dk

A magnificent strategy game spiced with some great arcade action – As commander of the aircraft carrier Epsilon, it's your job to stop the invasion of an island archipelago by the rogue aircraft carrier Omega. State of the art graphics mix tremendously with great gameplay to make an enthralling and entertaining game.

VULCAN
The Tunisian Campaign

DIPLOMACY

Leisure Genius ● C64 £12.95cs £14.95dk ● PC £24.95dk

The grand old man of nasty negotiation boardgames finally made it onto home computers and how! The game can handle up to seven players and it's an engrossing and madly addictive game that's a must for micro megalomaniacs.

UMS

Rainbird ● Atari ST £24.95dk ● IBM PC £24.95dk ● Macintosh £34.95dk ● Amiga £24.95dk

Rainbird's *Universal Military Simulator* is designed to simulate a conflict between two forces on a user-definable terrain that can be viewed in three dimensions from any one of eight directions. The program heralds a new era in 16-bit computer wargaming. *The ST version is available now with the other versions following shortly.*

VULCAN

CCS ● Spectrum £9.95cs ● Amstrad £9.95cs

An elegant, simple and ingenious wargame, *Vulcan* covers the Tunisian campaign of 1942-43. A huge playing area and air attack phase make the game an improvement over the same author's earlier works *Arnhem* and *Desert Rats*. *Vulcan* is fast, efficient and simple to play, and no self-respecting wargamer should be without it.

SIMULATIONS

Games that put you at the controls. Whether you're flying helicopters,or aeroplanes, or steering bobsleighs, simulation games can become very involving.

BOBSLEIGH

Digital Intergration ● Spectrum £9.95cs ● Amstrad £9.95cs £14.95dk

Bobsleigh is a thrilling game with enough strategy involved to add another dimension to a highly competent and addictive simulation. Have you got the stamina to win your way into one of the top three positions by the end of the season? Remember, sponsors don't back losers. Unfortunately, though *Bobsleigh* is available for the C64, it's a poor game compared to the Amstrad and Spectrum versions and is therefore not recommended.

CHUCK YEAGER'S ADVANCED FLIGHT TRAINER

Electronic Arts ● C64 £9.95cs £16.95dk ● PC £24.95dk

Chuck Yeager's flight trainer takes the flight simulator genre a step further by including a training option. Chuck will guide the novice through such difficult moves as aileron loops and rolls. With so much in one package it will take many hours of instructive fun to master all the avilable options.

FALCON

Mirrorsoft ● Apple Mac £34.99dk ● IBM PC £34.99dk

A magnificent flight sim that gives you a dozen missions at any of five ranks, so there's an awful lot to get through.The game's very combat-orientated making it definitely one for fighters rather than just fliers. After a short while of playing it's easy to see why *Falcon* scooped a whole bunch of awards in America recently.

FLIGHT SIMULATOR 2

Sub-Logic ● Atari ST £49.95dk ● Amiga £49.95dk ● IBM PC £49.95dk

The venerable godfather of flight simulations, *Flight Sim II* is the standard by which all others are judged. Although it spent a zillion weeks on top of the US charts, it's difficult to get hold of in the UK. If you have the technology, this is an essential purchase.

GUNSHIP

Micrcprose ● PC £34.95dk

Excellent graphics, involving simulation and a variety of missions make this one of the better PC games. Piloting your 'copter around in order to zap various gooks may not be terribly tasteful – but if you can stand the politics you should have a lot of fun.

INTERCEPTOR

Electronic Arts ● Amiga £24.95dk

F-18 simulation combining stunning solid 3-D graphics with atmospheric sound and an interesting variety of missions – impressive and extremely playable.

LEADERBOARD

Access/US Gold ● Spectrum £8.99 ● C64 £9.99cs £14.99dk ● Amstrad £9.99cs £14.99dk ● Atari ST £19.99dk

If you only buy one golf simulation for your collection, buy *Leaderboard*. It's head and shoulders above everything else in playability and realism, easy to get into, with delightful graphics and some wicked courses. Once you've mastered the courses on the original, tackle *Tournament Leaderboard* then *World Class Leaderboard* (based on real courses, including St Andrews, plus the 'Gauntlet Country Club' – devised by Access to be as difficult as possible).

CASSETTE
DIGITAL INTEGRATION

TOMAHAWK

Digital Integration ● Spectrum £9.95cs ● Amstrad £9.95cs £14.95dk ● Atari ST £24.95dk

One of the all-time great flight simulators, *Tomahawk* also has a strong combat edge to it. Flying a US Army Apache helicopter is a complex business, and the game's realistic controls make no concessions for learner pilots. Choose one of the three combat missions and you can fly out to attack ground targets, while keeping a weather eye open for enemy aircraft. Landscape, buildings and vehicles are all drawn in crisp vector graphics.

PUZZLES

If you're after a game that will provide you with a real challenge, without necessarily requiring large doses of strategic thinking, then it's a puzzle game you want.

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BONECRUNCHER

Superior Software ● C64 £9.95cs £11.95dk ● Amiga £14.95dk

At first sight this recent release may appear to be nothing more than a *Boulderdash* rip-off. However there are a number of highly innovative gameplay features which give *Bonecruncher* a feel all of its own. Highly recommended for those who prefer to solve problems rather than shoot them.

BOULDERDASH

Prism Leisure Corporation ● Spectrum

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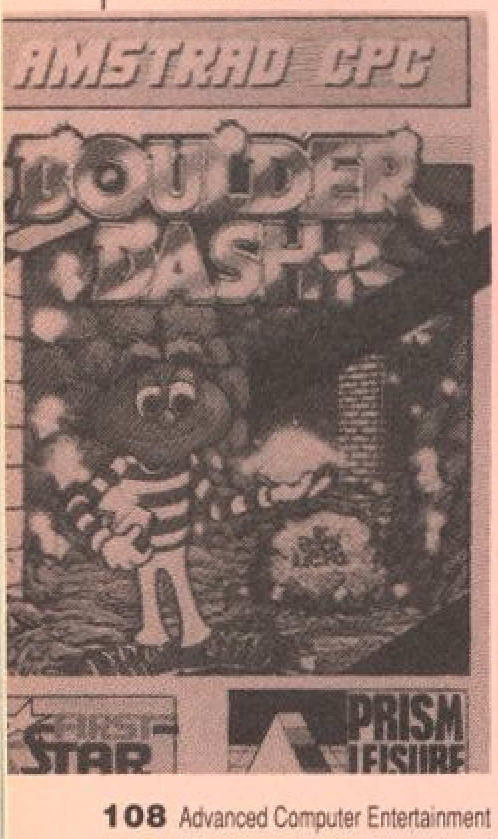
A game that has everything – instant addiction, long-term challenge, frenetic excitement as the clock ticks down and extremely tricky puzzles. You must collect jewels hidden in caverns, digging away earth and boulders to get at them. Boulders can drop and cause you serious damage, while the jewels are often hidden by seemingly impenetrable walls. Complex, but great fun. *Boulderdash* is a classic you can't afford to miss in its budget incarnation.



DEFLEKTOR

Gremlin/Vortex ● Spectrum £7.99cs ● C64 £9.99cs 14.99dk ● Atari ST £19.99dk

Optics are the order of the day here (not the spirit dispensers) as the player tries to connect a laser beam to a receiver and at the same time destroy a number of cells that are on-screen as well. You'll need to make full use of the mirrors, fibre-optic conduits and polarising and refracting blocks if you're to achieve your aim. Clear the first screen and you'll only have 59 more to do. Fascinating stuff that's horribly addictive.

NEBULUS

Hewson ● C64 £8.95cs £12.95dk ● Spectrum £7.95cs

Guide pogo to the top of eight towers using the spiral of platforms, lifts and ledges that form the route. It's a highly original game game that strikes a fine balance between frustration and addiction, added to which is the rotary scroll, thus making it a good looking, playable winner of a game.

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Bizarre and compelling strategy game played over the chequered surface of a planet dominated by the Sentinel. Fundamentally you have to absorb energy while trying to stop the Sentinel from absorbing yours. A clear brain and fast trigger finger are both necessary in this very original and large – 10,000 possible landscapes – game.

SKULLDIGGERY

Nexus ● Atari ST £19.95

Boulderdash clone that completely outdoes the original on this particular machine. Again (see *Boulderdash*, above) you're digging for diamonds in caverns over 100 different screens – with a time limit for each screen. *Skulldiggery* scores on playability (easier screens to begin with and a choice of starting point) and its entertaining two-player option.

SPORE

Bulldog ● C64 £1.99cs ● Amstrad £1.99cs ● Spectrum £1.99cs

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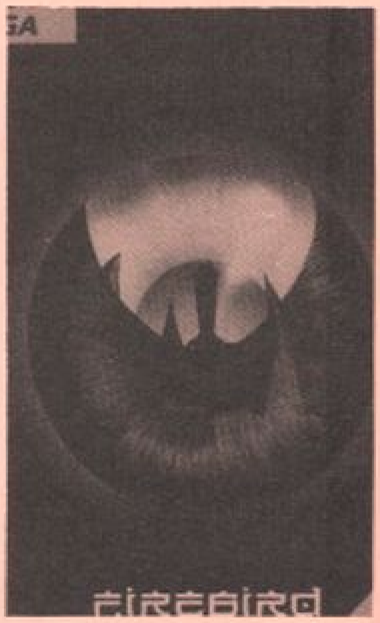

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game. One at a time, shapes fall downwards into a rectangular playing area. Left to their own devices they'll pile up until they reach the top of the screen: your task is to guide them down and pack them in tightly so that doesn't happen. Different versions have proved to be rather variable in their arcade aspects, but the brilliantly simple idea behind them means they're well worth a look whatever your machine.

THINK!

Firebird ● Spectrum £1.99cs ● C64 £1.99cs ● Amstrad £1.99cs

Originally released by Ariolasoft at full price, but now available for a fraction of that from Firebird. It's a horribly addictive game played on a 6 x 6 grid – either one or two player – in which you attempt to connect four counters, horizontally, vertically or diagonally. A compelling puzzle which incorporates many additional features and skill levels.

XOR

Logotron ● Spectrum £7.95cs ● Amstrad £9.95cs £14.95dk ● BBC £9.95cs £12.95dk

Extremely tricky maze game involving the player controlling two shields, and collecting masks through 15 mazes, which increase in complexity as you progress. Also in later stages, fish and chickens lie in wait, often blocking the masks and just waiting to fall on you and bring your quest to a premature end. Later still, the fish and chickens are the least of your worries as bombs, transporters and dolls crop up toconspire against you. Smooth scrolling, simple graphics, this one requires planning to complete successfully.

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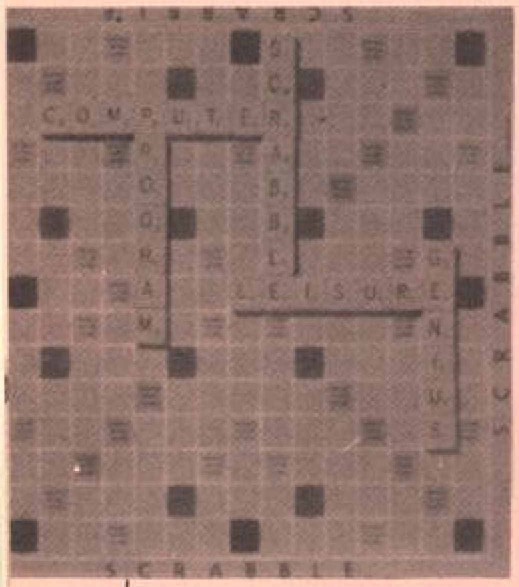

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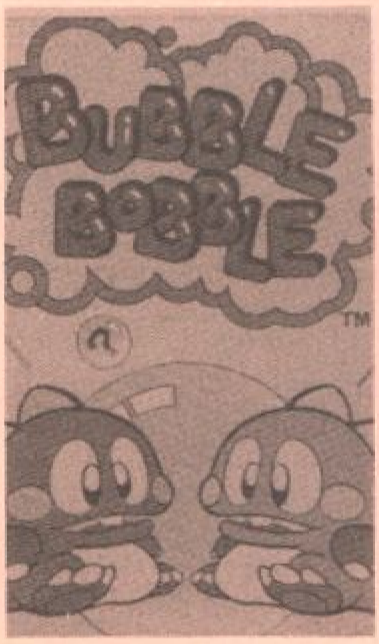

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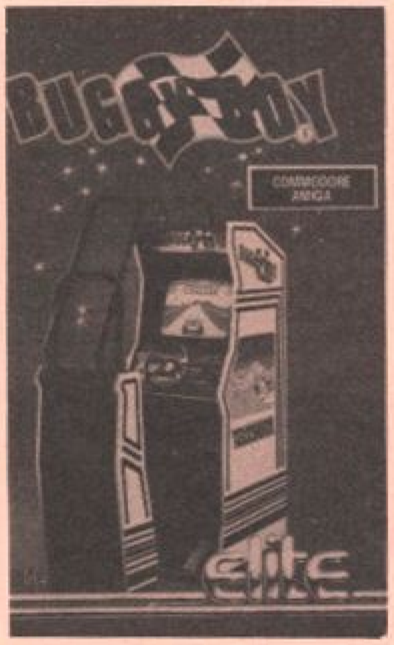
Playability is the essence of this two-player coin-op conversion. You and a friend play bubble-blowing dinosaurs, travelling through 100 maze-and-platform screens, fighting off the 'bullies' by encapsulating them in your bubbles to turn them into juicy fruit. More firepower and various bonuses await as you reach the more difficult later screens. Enormously good fun, if a little on the cutesy side. Can also be played as one player against the computer.



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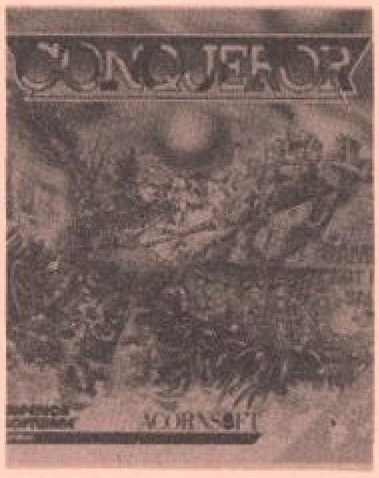
CONQUEROR

Superior ● Archimedes £24.95dk (Amiga and ST versions under developement)

Drive around in your very own tank! Blast the enemy in close combat and plan your strategy for the campaign. This is a tricky game to get to grips with, but if you persevere you'll find you soon become mesmerised by the thing. If you ain't got a 1Mb Archie though – forget it!



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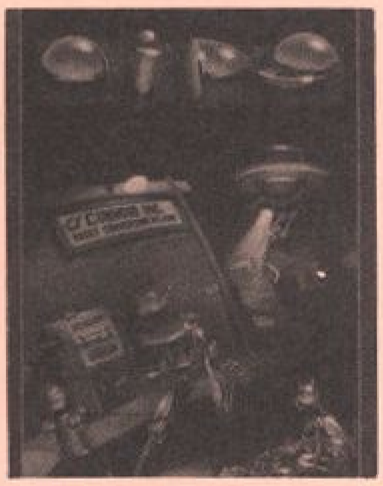

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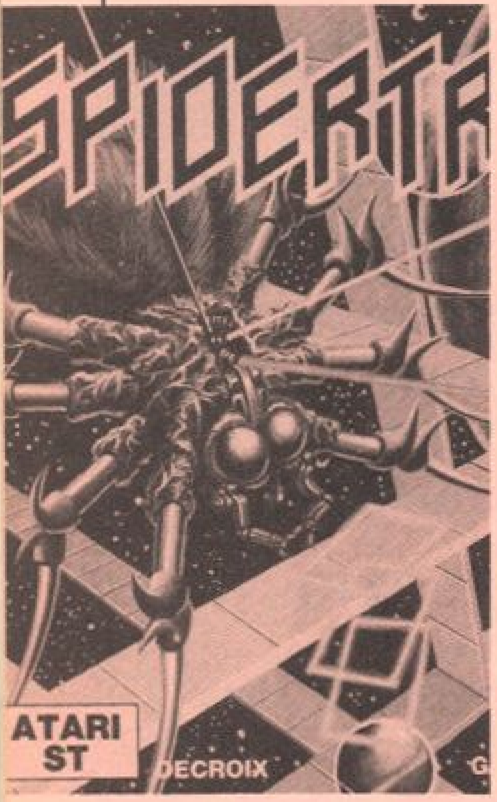

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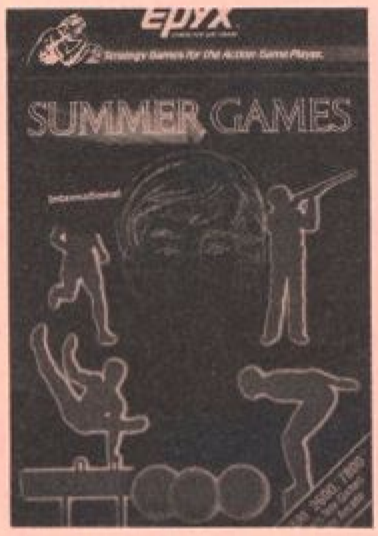

EPYX
Strategy Games for the Action-Game Player.
SUMMER GAMES
International

Epyx sporting simulations are of high quality but none have quite captured the playability and style of the original *Summer Games* and its immediate successor, *Summer Games 2*. One to six players can take part in high jump, gymnastics, springboard diving, clay pigeon shooting, swimming, pole vault – and others – with lovely large graphics and smooth animation throughout. Control of your athlete can be complex so practice is recommended.

SUPER SPRINT

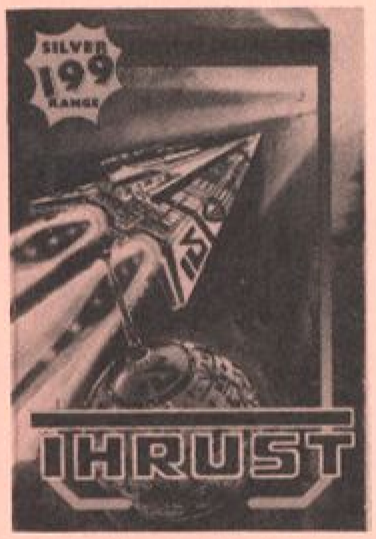
Electric dreams ● C64 £9.99cs £14.99dk Amstrad £9.99cs Spectrum £9.99cs ● Atari ST £19.99dk

One of the better coin-op conversions currently available. With up to three players all competing at once, the action is fast and furious and it will take a finely-tuned car to complete some of the more tortuous circuits that appear later in the game.

THRUST

Firebird ● Spectrum £1.99cs ● C64 £1.99cs ● Amstrad £1.99cs

Terrifyingly sensitive controls and a large helping of real-life physics make this budget title an absolute must. Flying down through the caverns of an enemy-held planet, you have to pick up fuel and destroy hostile gun turrets without crashing into the tunnel walls. Tough enough as it is, but then you've got to make the return journey with a heavy load slung under your craft. Very mean, very addictive.



THUNDERCATS

Elite ● C64 £9.95cs £14.95dk ● Spectrum £7.95cs ● Amstrad £8.95cs £14.95dk

The game based on the hit TV series/comic/plastic toy. It's a side-on view scroller that just oozes gameplay. Each of the game's 14 levels is a straight line dash from start to finish with a multitude of obstacles to avoid along the way. Graphically impressive and compulsively playable too.

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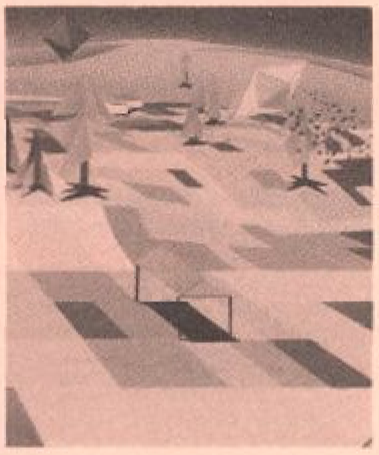
The piece de resistance of scrolling shoot-em-ups: blast the dreadnought and attacking ships while dodging around any large structures. Great metallic-looking dreadnoughts and the smoothest scrolling you'll ever see put this head and shoulders above the opposition. A game not to be missed, especially now that C64 versions come packaged with the excellent *Paradroid*.



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Superior Software ● Archimedes £19.95dk ● Firebird (16 and 8-bit versions) Amiga £19.95dk ● Atari ST £19.95dk ● Some 8-bit versions under development

Still ACE's highest rated game to date. A solid three dimentional shoot-em-up with such graphic perfection and timelessly addictive gameplay that it became an instant classic. Now the 16-bit versions have arrived and they're just as good as the 32-bit versions (check out the review on p.54). All that remains to be seen now is whether we'll be ACE rating the 8-bit versions.

SPECIALS

Original works that are simply unclassifiable feature in this section.

ATF

Digital Integration ● C64 £8.95cs £12.95dk ● Spectrum £8.95cs £12.95dk ● Amstrad £8.95cs £13.95dk

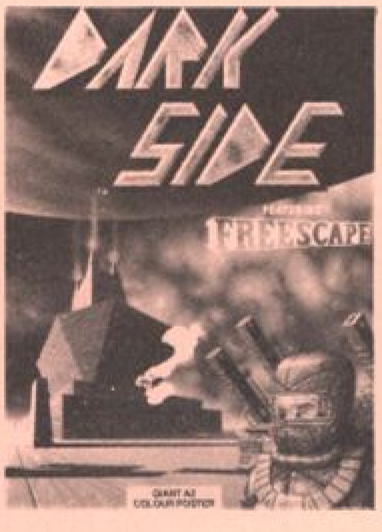
Excellent combat/flight simulator that's a bit of a change for Digital Integration, the simulation specialists. The emphasis is on solid action, the result being a sure-fire hit.

NEW ENTRY

DARK SIDE

Incentive ● C64 £9.95cs £14.95dk ● Spectrum £9.95cs £14.95 dk ● Amstrad £9.95cs £14.95dk

The follow-up to Driller (see below) that's just as playable, just as exciting and just as absorbing. Check out the main review on p.44



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Incentive ● C64 £14.95cs £17.95dk ● Spectrum £14.95cs £17.95 dk ● Amstrad £14.95cs £17.95dk ● IBM PC £19.95dk

This three-dimensional masterpiece of exploration and adventure took a year to develop, but the wait was worth it. A whole world was crammed into 8-bit micros to give the player such a feeling of 'being there' it's uncanny. It's bold, dazzlingly original and very playable. A milestone in computer entertainment.

ELITE

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£14.95dk ● BBC £12.95cs £14.95dk (available from Superior Software)

Still the best space trading game, *Elite* set a standard for other companies to follow. One of the first space games to use vector graphics, it's a shooting and trading effort set across several galaxies, with plenty of variety to the gameplay. You can trade legal goods in (relatively) safe systems, or run the gauntlet of pirates in the galaxies' danger spots with your hold full of contraband. Either way there's a nice line in zero-G dogfighting, and as big a task as you'll find anywhere.

MAGNETRON

Firebird ● Spectrum £7.95cs ● C64 £8.95cs £12.95dk

Puzzles and action Steve Turner style. Save the world by dismantling eight satellites. Steal parts from the enemy droids to upgrade your own droid, and hopefully make your job a little easier. The ideal game for all *Quazatron* fans looking for a similar, new challenge.

MATCH DAY 2

Ocean ● Spectrum £7.95cs £14.95dk ● C64 £8.95cs £12.95dk ● Amstrad £8.95cs £14.95dk

Definitely *the* football game on micros; magnificent animation, great gameplay, vicious and skilful computer opponents. Various improvents over the original make this a must for all computer football fans.

QUEDEX

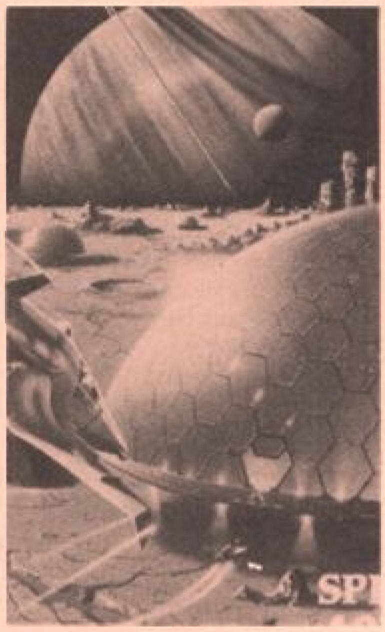
Thalamus ● C64 £9.99cs £14.99dk

In this impressively challenging game you must steer a metallic ball through ten different screens of mazes, bonuses and obstacles, all within a set time limit. This simple game concept has a host of added features to make it particularly pleasing: you can carry over unused time to the next screen, for example, and tackle the different screens or 'planes' in any order you wish. Excellent graphics and utterly absorbing play.

SPINDIZZY

Electric Dreams ● Spectrum £9.99cs ● C64 £9.99cs £14.99dk ● Amstrad £9.99cs £14.99dk

Tremendous stuff; steer your spinning top over tough obstacles and collect jewels, against a fiendish time limit. The game landscape is a vast system of catwalks, ramps, towers, and trampolines surrounded by lethal drops – and NO safety rails. Floor switches activate lifts and bridge gaps, but tripping them in the right order can be harder than it looks. A few bad guys and a lot of nice touches, but the exploration's the thing.



TAU CETI/ ACADEMY

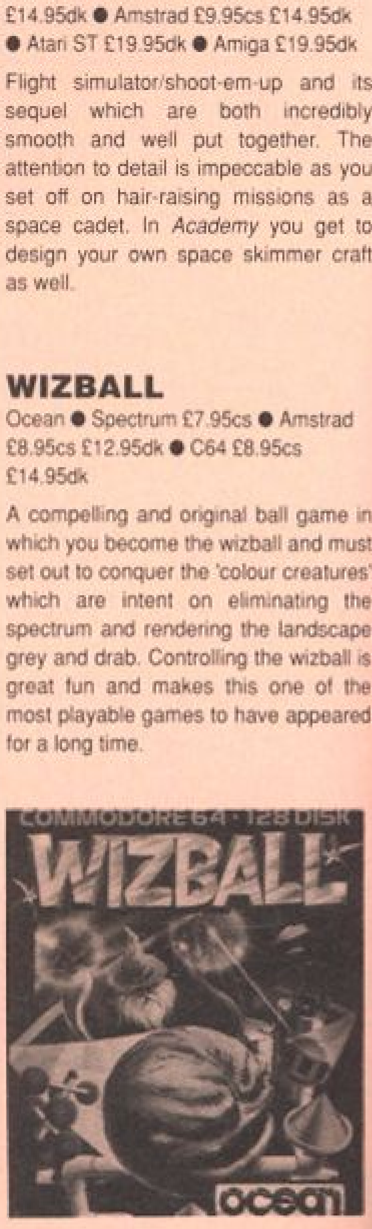
CRL ● Spectrum £9.95cs ● C64 £9.95cs £14.95dk ● Amstrad £9.95cs £14.95dk ● Atari ST £19.95dk ● Amiga £19.95dk

Flight simulator/shoot-em-up and its sequel which are both incredibly smooth and well put together. The attention to detail is impeccable as you set off on hair-raising missions as a space cadet. In *Academy* you get to design your own space skimmer craft as well.

WIZBALL

Ocean ● Spectrum £7.95cs ● Amstrad £8.95cs £12.95dk ● C64 £8.95cs £14.95dk

A compelling and original ball game in which you become the wizball and must set out to conquer the 'colour creatures' which are intent on eliminating the spectrum and rendering the landscape grey and drab. Controlling the wizball is great fun and makes this one of the most playable games to have appeared for a long time.



ADVENTURES

Adventure games require text input from the player and give a text response in return. There are many sub-categories, involving icon-control, graphic depiction of locations, and even speech output.

THE BARD'S TALE III

THE BARD'S TALE

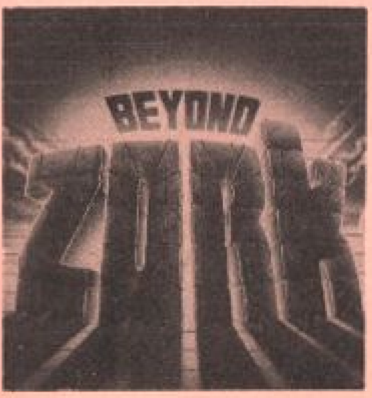
Electronic Arts ● C64 £14.95dk ● Amiga £24.95dk ● Atari ST £24.95dk ● IBM PC £24.95dk

Build a party of up to six adventurers and sally forth through the city in search of treasure, combat, and fame. Your character develops in experience during play and the task involved is pretty immense – don't expect to finish it inside a month or two.

BEYOND ZORK

Infocom/Activision ● C64 £19.99dk ● Amiga £24.99dk ● IBM PC £24.99dk ● Atari ST £24.99dk

Infocom's attempt to muscle in on the role-playing market is a great success. Locate the fabulous Coconut of Quendor in a game that combines the wit and ingenuity of one of the world's most original software companies with state-of-the-art parsing and gameplay. Text-only, but with an on-screen mapping facility.



GUILD OF THIEVES

Rainbird/Magnetic Scrolls ● C64 £19.95dk ● Spectrum £15.95dk ● Amstrad 6128 £19.95dk ● Amiga £24.95dk ● IBM PC £24.95dk ● Atari ST £24.95dk ● Macintosh £24.95dk

Britain's newest adventure software house produces a classic, traditional treasure hunt with state-of-the-art graphics and some very tricky puzzles. Powerful parser helps create a convincing game-world with humour and imagination.

The GUILD of THIEVES

JEWELS OF DARKNESS

Rainbird/Level 9 ● C64 £14.95cs ● Spectrum 128 £14.95cs ● Amstrad £14.95cs £19.95dk ● IBM PC £19.95dk ● Amiga £19.95dk ● Atari ST £19.95dk ● Macintosh £19.95dk

Level 9, Britain's oldest adventure programming family, have put together three of their classic releases, *Colossal Adventure*, *Dungeon Adventure*, and *Adventure Quest* on one disk. The games have been uprated with graphics and larger vocabularies and are as close to the original spirit of adventuring as you're likely to find.

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● HARDWARE UPG

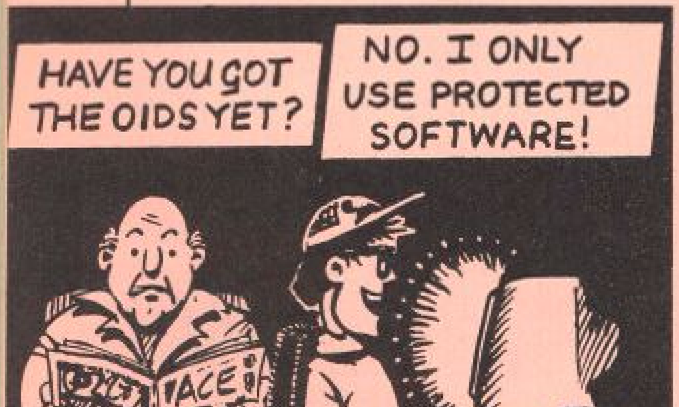
	BUYLINES	GRAPHICS & SOUND	
ACORN ARCHIMEDES			
THE RANGE consists of the 305, 310 and 310M, packaged as keyboard, mouse and drive with or without monitor (colour or mono). M denotes the inclusion of a PC emulator **THE PROCESSOR** is the Acorn ARM and the 305 comes with 512K, while the 310 boasts 1Mb of memory. ● **Recommended retail price**: from £801.60 for the 305 alone to £1188.00 for a 310M with colour monitor	**FULL PRICE** is the order of the day so far, since it hasn't been around long enough to become a second-hand buy. ● **One year's guarantee** – faulty machines should be returned to the dealer.	**RESOLUTION** is either 320 x 256, 640 x 256 or a pin-sharp 640 x 512 with multi-sync monitor. With a palette of 4096, up to 256 colours on-screen at once (in 320 x 256 mode) or 16 (640 x 512). The Archie boasts one sprite, and fast graphics. Note that a TV modulator is not provided. ● **Monitor output**: b/w — composite video; colour – RGB + sync.	**THE INTERNAL SPEAKER** is good quality, while the Archimedes also has a **MIDI interface**, **stereo output**, **16 channels** (8 stereo pairs) and covers **six octaves!**
APPLE MACINTOSH			
THE TWO MODELS in the range – the SE and Macintosh II – comprise a monitor with built-in CPU and disk drive and a separate keyboard. **1Mb MEMORIES** are common to both, the SE using a Motorola 68000 processor, and the II a Motorola 68020. ● **Recommended Retail Price:** SE £2,294.25 upwards; II £4,329.75 upwards.	**NOT CHEAP** even if you go second-hand. There's not much of a discount market in new Macs, so you generally have to pay list price. Check small ads in specialist magazines for used versions. ● **'APPLECARE'** is an optional 'insurance' scheme for covering the cost of repairs outside the guarantee period, but apart from that you just get the standard **one year's warranty**.	**VERY SHARP** graphics are a feature of the black and white SE, with resolution of 512 x 342. The II, though boasts figures of 1027 x 760, and a palette – with colour monitor – of 16 million! Between 16 and 256 colours can be used on-screen at once. For such a powerful machine, the graphics are only reasonably fast, while there are no sprites. A TV modulator is not supplied.	● **Monitor output:** Integral monitor. **GOOD SPEAKER QUALITY** goes with **4 channels** and good overall performance. Third party **MIDI interfaces** are available, and although the SE doesn't offer stereo output, the II does.
ATARI ST			
THE TWO basic models in the range – the 520STFM and 1040STF – are supplemented by various Mega STs, and come as a keyboard with built-in disk drive. **512K OF MEMORY** is standard on the 520STFM, while the 1040STF offers 1Mb. Mega STs typically have 2 or 4Mb. All use Motorola 68000 processors. ● **Recommended Retail Price:** 520STFM £399.99; 1040STF £599.99	**GOOD PACKAGES** can sometimes be found, but as a rule you won't get much under the RRP. Check out classified ads in magazines for second-hand buys. ● **One year's guarantee** as usual, and faulty machines should be returned to the dealer.	**HIGH, MEDIUM AND LOW RESOLUTION** modes exist, with high res (640 x 400) available only in monochrome. Medium res (640 x 200) can handle 4 colours from a palette of 512, while low res (320 x 200) offers 16. The 520STFM can plug into a **TV**, but other models need a modulator. There are no sprites. **Monitor Output:** RGB/Monochrome	**MIDI INTERFACE** there may be, but no stereo output. Three channels, 8 octaves and envelope shaping complete the package.
COMMODORE AMIGA			
THREE MODELS have been produced – the Amiga 500, A1000 (now discontinued) and A2000 – and are supplied as a keyboard with built-in disk drive. Packaging of the A1000 will depend on individual dealers. **ONLY 256K** was offered by the A1000, but the **500** has **512K** and the **A2000 1024K**. All use the **Motorola 68000** processor. ● **Recommended Retail Price: A500** £399.99; **A1000** none – discontinued; **A2000** £1236.25	**CHECK DEALERS** for special packages by all means, but as a rule Amigas are not at present sold below the RRP. Second-hand availability is limited as yet. **Faulty machines** should be returned to the dealer within the guarantee period.	**THE GRAPHICS CO-PROCESSOR** allows sprites (there are 8 of them) to be 're-used' under some circumstances and offers **powerful windowing capabilities**, while a **block image transferer** (blitter) speeds up large-scale graphics work enormously. **Resolution** is 640 x 200 with a palette of 4096. 16 colours can be used in high res, 32 in low res and 4096 in hold and modify. A **TV modulator** is extra, while the **Commodore A1081 monitor** weighs in at £349.99	● **Monitor Output:** SCART **COMPREHENSIVE SOUND** facilities include **stereo output**, 4 channels, 9 octaves, **built-in text to speech synthesis**, and programmable waveforms, amplitude and frequency modulation. **MIDI facilities** are not built-in, but third party **interfaces** are available.
IBM & COMPATIBLES			
IBM'S PC is the original, but the many clones include **Amstrad's PC1512** and **1640 series**, **Tandy's 1000EX**, **Spectrum Bondwell 32**, etc. Specifications given apply to most IBM compatibles unless particular riders are made. If you are thinking of buying a PC or compatible, check salient details with dealers first. **Packages** depend on the manufacturer. You can buy the bare bones or the whole works. **MEMORY** is usually between **512** and **640K**, while the **processor** is the **Intel 8086, 8088** or variants. ● **Recommended Retail Price:** From around £400 for the cheaper basic clones to £1500 for top-of-the-range clones (with hard disk, colour monitor etc.). IBM machines themselves are considerably more expensive.	**GOOD VALUE** packages like the Amstrad are worth going for, but if you know what you're doing even better bargains can be had from discount stores. If you don't know what you're doing go for a reputable brand. PCs can often be picked up **second-hand** in auctions of computer and office goods, or through magazine adverts. **Faulty machines** can be returned to the dealer, but a **maintenance contract** – often surprisingly cheap – can guarantee your peace of mind.	**THREE COMMON GRAPHICS STANDARDS** exist – CGA, EGA (Normally fitted as upgrade, but comes as standard on some PCs – eg Amstrad PC1640) and Hercules. Graphics are not provided as standard on PCs, although nowadays most are sold with the necessary add-on boards already installed. These three standards account for almost all cheap current PCs, but other adaptors do exist. Second hand PCs may have unusual or text-only displays. **RESOLUTION** with **CGA** (Colour Graphics Adaptor) is 320 x 200 in low res and 640 x 200 in medium res. **EGA** (Enhanced Graphics Adaptor) has both CGA graphics modes plus 640 x 350 high resolution, while the **Hercules** standard offers resolution of 720 x 348. **PALETTES** vary – **CGA** has none as such, just	three different colour schemes in low res. **EGA** has a palette of 64, while **Hercules** is mono only, and is often built-in on mono PCs. **COLOURS** available in **CGA** are 4 in low res and mono in high res. CGA is the most common PC colour standard; **EGA** offers 16 and **Hercules** is mono only. **TV** output is not supplied. There are no sprites, and graphics speed varies according to the software. ● **Monitor Output:** Normally RGB **POOR SPEAKER QUALITY** is a general characteristic. PCs are not really machines for the musician, especially in view of recent competition from Atari and Apple Macintosh. Stereo output is not provided, but third party **MIDI interfaces** are available.

GRADE GUIDE....

HARDWARE & SOFTWARE	IN BRIEF
THE BUILT-IN DRIVE is good and fast, and takes 3.5 inch disks holding a healthy 800K formatted. **Very comprehensive keyboard** includes programmable auto-repeat rate, but has a **surprisingly cheap feel** given the machine's quality. A **3- button mouse** comes with the machine, but a **joystick is not supported.** ● **Also provided:** RS423 serial, Centronics compatible parallel, 9-pin mouse socket, 3.5mm stereo jack, 64 way din, 41612 expansion port, IEC 320 video outlet and I/O interface (BBC compatible). **EXISTING SOFTWARE** is limited to *Zarch* (ACE Rated 979), *Conqueror* (ACE rated 931), and a couple of databases from Minerva Systems. **Graphics potential** is enormous, with a couple of packages now available. **Powerful music possibilities** too, which the software houses have yet to pick up on though. ● **Prospects for the future** are very good, but not necessarily for games market, even though there is at least one more game on the way, together with a couple of adventures.	**ARCHIMEDES** – the cutting edge of micro technology... ...so it's not going to be cheap. Nor does it have the software base of longer-standing micros. It's a very exciting machine, but best left to the real enthusiasts – at least for now.
800K FORMATTED fits onto the 3.5in disks taken by the built-in drives, which are fast and reliable. The 81 keys of the standard keyboard include function keys and a numeric keypad. An optional extra is the **Apple Extended keyboard**, with 105 keys. Joystick is not supported, but a high quality one-button mouse is supplied. ● **Also provided:** SE 2 – Apple Desktop Bus connector; 2 RS232/RS422 serial; external disk drive; 96-pin Euro-Din expansion slot SCSI – DB-25 connector; External audio amplifier: II – 2 RS232/RS422 serial; DB-25 SCSI T. **A WIDE RANGE OF SOFTWARE** exists in virtually all fields except games. These are limited to a small selection of arcade games, but there are a number of adventures. **Business and DTP** fields are particularly well supported, but watch out for US software that hasn't been thoroughly tested. **Interesting graphics packages** for those interested in DIY publishing, while there's **lots of MIDI software** – but it's expensive stuff. ● **Prospects for the future** are excellent, especially in business and DTP.	**EXPENSIVE** and up-market machine for those keen on desk-top publishing, wimp systems and classy software – which is very expensive. Games are mostly limited to icon-driven adventures. Good for MIDI musicians, but be prepared to pay through the nose.
360K OR 720K fits onto a 3.5in disk, depending on whether the (built-in) drive is 0.5 or 1Mb. The keyboard has 96 keys including 10 function keys, and joystick ports are standard. A two-button mouse is supplied with the machine. ● **Also provided:** MIDI out (5 pin DIN); MIDI in (5 pin DIN); audio out; audio in; RGB moniitor; mono monitor; serial/modem port; second disk; hard disk; mouse/joystick; joystick; cartridge; TV. **LIMITED SOFTWARE BASE** by 8-bit standards, but the Ataris are the **best-supported** of the new machines – Most major software houses convert their output to ST now, and several smaller houses specialise in ST titles. The range of **arcade titles** isn't bad, while **adventures** are rarer but generally very good. The only **fly in the ointment** is that a 360K disk can't hold a really large ST program, so **two-disk titles** are becoming increasingly common. The disk-changing these require can get tedious, especially where you've got to swap disks during play. There are several **first-rate graphics packages** around, and **musicians** are catered for very well indeed, with many companies producing sound editors, samplers, synths, etc. ● **Prospects for the future** are very bright, and the Atari could soon rival the Spectrum and C64 for numbers of new releases.	**EXCELLENT** general-purpose home machine for games, small businesses, and productivity – it's the number one choice for MIDI musicians. The ST's price could still give it the edge for artists over the Amiga. One of the first machines to feature a disk drive in the side of the console, this design has now been taken up by other manufacturers.
A WHOLE 880K formatted fits onto the Amiga's **3.5in disks**, which are loaded via a surprisingly **sluggish and noisy drive**. The 94 key keyboard includes 10 function keys, a numeric keypad and separate cursor cluster. A mouse is supplied as standard. ● **Also provided:** Two joystick/mouse; audio output left and right; extra disk drive; serial RS232; centronics parallel; RGB/video; monochrome video; expansion bus **SMALL SOFTWARE BASE** in comparison to 8-bit machines, but releases are just beginning to pick up. **Arcade games** are not yet up to the capabilities of the machine, but the few adventures so far released are generally of good quality. The quality and range of **graphics** products is outstanding, which the **music potential** of the Amiga is superb. There's **little MIDI support** as yet, though. ● **Prospects for the future** are good, but the A500 needs to establish a larger user-base before becoming a prime development machine.	**STUNNING SPECIFICATION,** and despite initial uncertainty software support now seems assured. Although overshadowed by the ST in the UK to date, overseas sales (particularly in US) are high. An excellent machine for those who can afford one.
5.25in DISKS are used by PCs as a rule, but some very new models do use **3.5in disks**. Capacity is almost always **360K** formatted. Performance is generally reliable and pretty fast – faster still, of course, with hard disks. All models include function keys and separate numeric keypads. A wide variety of **third-party keyboards** is available. Two **different joystick standards** exist – IBM (analogue) and Amstrad (Atari style – the norm for games playing). Most games support either IBM or both, but Amstrads can now be adapted to use IBM joystick. Newer models (eg Amstrad) include mouse in package. **Third party mice** are available for mouseless PCs. ● **Also provided:** Various interfaces can be expected to include centronics parallel; RS232; plus expansion port with most machines. Some of these are optional. **A VAST SOFTWARE BASE** already exists for PCs, with releases still pouring out. Price levels are dropping as well. Cheaper machines have meant that **more and more games** are being released on the PC – both arcade and adventure types. The **CGA graphics standard** used to be predominant, but an increasing number of **EGA games** with superior graphics are appearing. The PC has only recently been perceived as a machine with games potential. Many sophisticated business graphics packages exist, but there's not much for the artist. Musicians can choose from a fair selection of – expensive – MIDI packages and interfaces. ● **Prospects for the future** are good, since releases aren't likely to dwindle as long as there are PCs on desks.	**BUSINESS ORIGINS** of the PC can't be disguised, but for all that they represent superb value if you want an all-round machine. Increasing numbers of games software releases include few of the coin-op arcade variety though, and PCs are definitely not to be considered if entertainment is your first priority.

RANDOM ACCESS

Welcome to the regular section of the magazine that promises to puzzle, tease and perplex you. We've got a fiendish puzzle and a cryptic crossword to give you some mental exercise, and something to make you chuckle. If you reckon you could draw a cartoon that will give us a giggle, don't hesitate to send it in (for the best chances of reproduction, draw your cartoons black on stiff white paper). If you're one of those types that needs extra motivation to get your thinking cap on then consider the fact that the first correct entry pulled from the hat after the closing date for both the puzzle and the crossward wins £25 worth of software – so, heads down and get to it!


HAVE YOU GOT THE OIDS YET?
NO. I ONLY USE PROTECTED SOFTWARE!
ACE

This month's cartoon comes to us courtesy of **A. Jefferson of Hull**.

PUZZLE ENTRY FORM

NAME ....

ADDRESS ....

....

COMPUTER OWNED........................

I think the solution is:

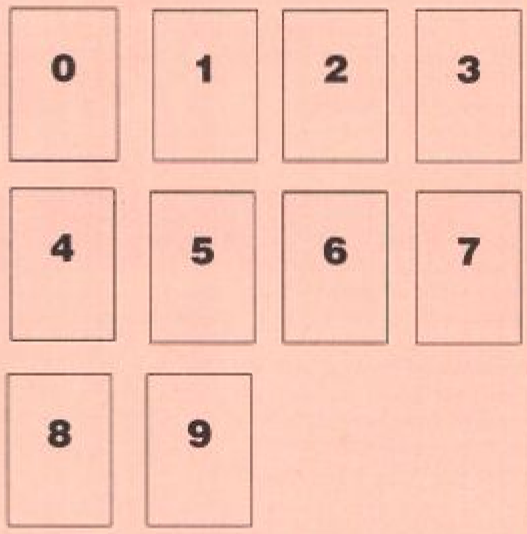
- - - - - - - - - -

Send your answers to: **PRIZE PUZZLE 5, ACE, 4 Queen Street, Bath BA1 1EJ**. Closing date August 10th.

THE ACE PUZZLE No5

Set by Archie Medes

Take 10 pieces of card and write on them the 10 digits – 0 to 9 as shown.



Place two of the cards on the table to make a two-digit number that is exactly divisible by 2. Now place a third card to the right of these two cards to produce a three-digit number exactly divisible by three. Continue in this way, each time placing a card on the right hand end of the row to produce a four-digit number divisible by four, a five-digit number divisible by five and so on – ending finally with a 10 digit number which must, of course, be exactly divisible by 10.

Thus, each number that is formed must be exactly divisible by the number of digits that the number contains. Needless to say, the cards must not be rearranged once they have been placed on the table!

What 10 digit number will you end with?

Instead of working this out with pencil and paper why not devise a simple listing that will get your micro to solve it for you?

SOLUTION TO PUZZLE No3

A=2 C=6 E=3

The complete values are:

263	(prime)
22631	(53 x 427)
5626384	(2372 squared)
127263527	(503 cubed)

Of the 143 three-digit primes, we need to find the one which can also form the central digits in each of the expressions in turn, and which for each expression can only result in one answer. For example, the prime 113 would not do as there is no *cube possible, while the prime 151 would be rejected as there* are TWO possible cubes (679151439 and 776151559), and therefore would not result in a unique answer.

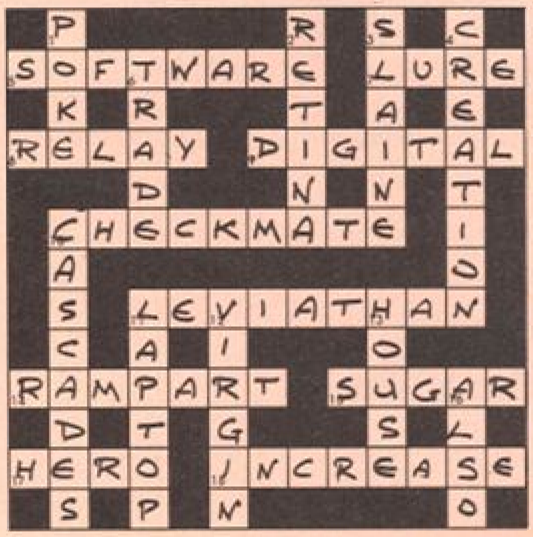
- the first correct entry out of the hat came from **Tony Green, Hadfield, Cheshire**.

The best method is to test each of the primes in turn, eliminating those for which a single solution is not found. As there *are only 536 nine-digit cubes to be checked against each of the* primes, as opposed to 1698 multiples of 53 or 2162 seven-digit squares, this would present the best initial approach. Listing 1 generates each of the three-digit primes in turn (as determined by the subroutine), and then tests each of these against the cubes of numbers 464 to 999 inclusive. A count (CT) keeps track of the number of possible values for each of the primes in turn, and only prints out those with a unique solution – i.e. having a count of 1. This results in 42 primes remaining from the original 143. This number can be further reduced to 30 by eliminating all those values which have a duplicated digit as we are told that A,C and E are DIFFERENT digits. These 30 values are then placed in the DATA lines of Listing 2 to enable the second of the checks to be carried out.

Listing 2 works in a similar way to the cube test just applied except that it needs to test only those values remaining in the DATA lines. This filters out all but 9 of the primes. These in turn are placed in the DATA lines of Listing 3 which performs the test, this time against five-digit multiples of 53. After this test only one prime remains (263), from which the other values can be easily determined.

The significance of the professor's number plate is to indicate that there is a certain number which will produce a unique set of answers. The professor, knowing what this was, would be

SOLUTION TO PRIZE CROSSWORD No3



Prize crossword winner was **I. Nicholl of Antrim, Co. Antrim.**

TELL US WHAT YOU THINK!!

Go on, it's YOUR magazine. Turn topage 100 for the questionnaire that will tell US what YOU want.

able to determine the required values immediately. We, who do not know this number, will have to eliminate all of the other possibles first!

All of these listings should run on any machine capable of using Microsoft BASIC.

LISTING 1

```
100 FOR P=101 TO 999 STEP 2
110 P$=STR$(P):GOSUB 1000
120 IF FL=1 THEN 180
130 CT=O:FOR N=464 TO 999
140 C=N*N*N:C$=STR$(C)
150 IF MID$(C$,4,3)=P$ THEN CT=CT+1
160 NEXT N
170 IF CT=1 THEN PRINT STR$(P):S R:
180 NEXT P
190 END
1000 FL=0
1010 FOR F=3 TO SQR(P)+1 STEP 2
1020 D=P/F
1030 IF D=INT(D) THEN FL=1:F=P
1040 NEXT F
1050 RETURN
```

LISTING 2

```
100 RESTORE
110 READ P:IF P=0 THEN END
120 P$=STR$(P)
130 CT=0:FOR N=1000 TO 3162
140 N$=STR$(N*N)
150 IF MID$(N$,3,3)=P$ THEN CT=CT+1
160 NEXT N
170 IF CT=1 THEN PRINT P$
180 GOTO 110
1000 DATA
103,107,109,137,149,193,197,239,251,263,293,347,359,461,48
7,491
1010 DATA
509,523,571,587,593,601,613,617,641,751,839,853,859,953,97
1, 983,0
```

LISTING 3

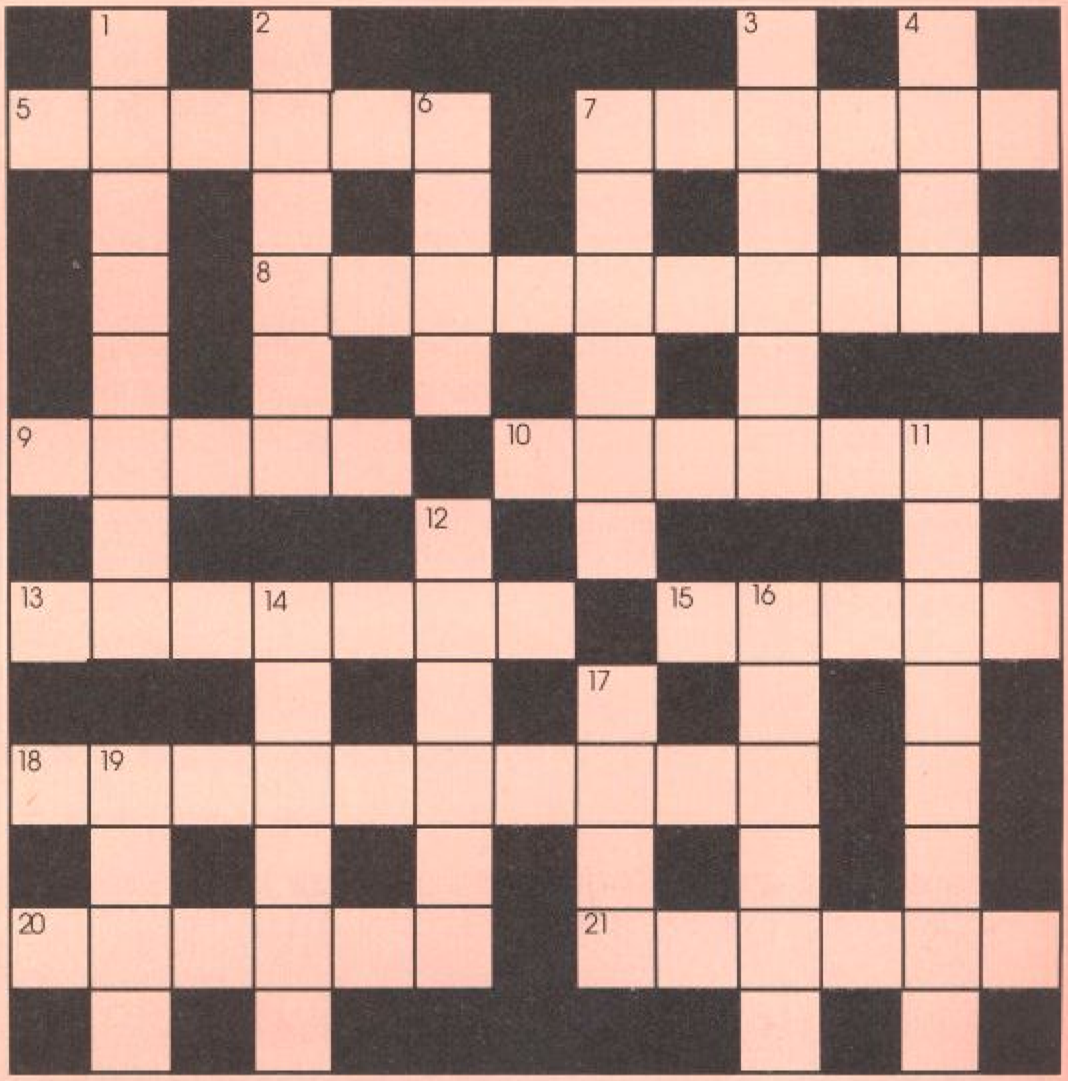
```
10 RESTORE
20 READ P:IF P=0 THEN END
30 P$=STR$(P)
110 CT=0:FOR N=10017 TO 99958 STEP 53
120 N$=STR$(N)
130 IF MID$(N$,2,3)=P$ THEN CT=CT+1
140 NEXT N
150 IF CT=1 THEN PRINT P$
170 GOTO 20
1000 DATA 109,137,263,461,487,587,593,953,983,0
```

ACE PRIZE CROSSWORD 5

Set by Mips

The first correct entry taken from the postbag wins software worth £25.00. Closing date for entries August 10th.

The ACE crossword is cryptic. The answer might be an anagram, or formed from the end of one word and the beginning of another, or simply hinted at by the clue. Most - but not quite all - of the answers are computer-related.



ACROSS

5. Game from Mirrorsoft giving one a strange feeling of familiarity (4,2)
7. Brags about first space craft (6)
8. Game from Activision sounds like a bad dream (10)
9. Stan dying to get hold of a computer (5)
10. Trap error Ann Rees made (7)
13. Sense I'm about to get a computer game (7)
15. Joke game provided by Linel (5)
18. One reflecting on easy games producer (10)
20. Stacks of drawers (6)
21. Bugs found in terror space game (6)

DOWN

1. Agree Ned should develop a computer game (8)
2. Broke into the system and cut up (6)
3. Map can be redrawn in classic game (6)
4. Skylight visible after dark (4)
6. The 'U' in CPU (4)
7. New version Ben hid at the back (6)
11. James Garner's role in Melbourne House arcade game (8)
12. Computers used in writing comic Rose designed (6)
14. Program nearer becoming a nice little moneyspinner (6)
16. Come back for the key (6)
17. Basic command spoken about (4)
19. Picture symbol displayed by a program (4)

CROSSWORD ENTRY FORM

NAME ....

ADDRESS ....

....

COMPUTER OWNED ....

Send to: **PRIZE CROSSWORD 5, ACE, 4 Queen Street, Bath, BA1 1EJ.** Closing date August 10th.

Merlins Kingdom

PLAY
IT'S MURDER!

A top business executive has been murdered. Can you find out how, why, and WHODUNNIT? Was the crime committed by a member of his family, business rivals, the IRA, Moslem extremists, the CIA, M15, the Mafia, or someone else? As a player of **"IT'S MURDER!"**, you must find out - and stay alive in the process!

Will you choose to be a Scotland Yard Detective, a member of the Anti Terrorist Squad, a Private Investigator, or one of our other characters? The game has been written by experts, including a qualified Pathologist. **"IT'S MURDER!"** will challange your powers of logic and deduction to their limits.

Further details free. Enrolment, Full Rules, and Pre-play murder information £5.00. Turns £1.50 Postage paid both ways - no hidden extras. If not satisfied, return the registration pack complete within 7 days, and we will give you a complete refund.

Also ask for details of our other PBMs - **MERLINS KINGDOM** and **CTHULU QUEST**

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For PBM enrolment, details, or for Holiday Weekend details *please write to:*

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MERLINS COTTAGE
TREVILLICK
TINTAGEL
NORTH CORNWALL PL34 0DN
☎ 0840 770935

Pastage Refunded on all enquires

ACE READERS' PAGES

The space which YOU fill

Small ads, club announcements, event details, pen pals, offers of help – all these and more on offer here. A unique way of contacting tens of thousands of like-minding computer users.

We're particularly keen to receive entries to the Helpline offering assistance on particular games you may have solved – adventures or others. Or offering technical expertise on aspects of particular machines.

Why not make your contribution?

THE ACE HELPLINE

Here's a great way of receiving free advice from public-spirited readers. If you make use of this service, please respect the Helpline code:
• If writing for help, enclose a stamped, self-addressed envelope.
• Do not make phone calls at anti-social hours.

• Bureaucracy, Knight Orc, Guild of Thieves, Pawn, Leather Goddesses of Phobos, Wishbringer, Zork 1, Red Moon, Return to Eden, Snowball, Worm in paradise, Price of Magic, Lord of the Rings, Kings Quest II, Hulk, Spiderman, Dungeon Adventures, Colossal Adventures, Adventure Quest, Macbeth I, II & IV, Fourth Protocol I, II & III, Jinxter, Hollywood Hijinx, Trinity, Moonmist, Cutthroats, Zork II & III, Gnome Ranger (Part 1), Starcross, Leisuresuit Larry in the Land of Lounge Lizards, A Mind Forever Voyaging, Lurking Horror
RGB Marshall, 3 Mereside Avenue, Congleton, Cheshire, CW12 4JZ.
Tel: 0260 279786.

• I have completed the following: The Pawn, The Bard's Tale, Ultima IV, Phantasie I, Dracula, Never Ending Story, Zork III, Wishbringer, Enchanter, Borrowed Time, Kobyashi Naru, Heavy on the Magick, Legacy, The prince of Magic, Claws of Despair, Wizards & The Princess.
Derek Wong, 42 Ingram Road, Thornton Heath, Surrey. CR4 8EB.

• Wishbringer, Labyrinth, The Hobbit, The Hulk, Spiderman, Seabase Delta, Kobyashi Naru.
Ann Gray, 9 Alness Close, Birchwood, Lincoln, Lincs. LN6 0YX.

• Enchanter, Sorceror, Spellbreaker, Hollywood Hijinx, Hitchhikers Guide, Lurking Horror, Infidel, Leather Goddesses, Planetfall, Wishbringer, Zork I, II, III, Guild of Thieves, Pawn, Gnome Ranger, Adventure Quest, Aftershock, Angelique A Grief Encounter, Arnold Blackwood Trilogy, Big Sleeze, Bugsy, Black Fountain, Castle Blackstar, Castle Skull Lord, Crystal Theft, Cursed be the City, Dracula, Dungeons Amethyst, Alchemist n Everythin', Escape From Khoshima, Espionage Island, Fantasia Diamond, Forest At Worlds End, Gremlins, Haunted House, The Hermitage, Heroes of Karn, The Hollow Grapic, The Hollow Text, Hunchback, Imagination, Jewels of Darkness, Jade Stone, Kobyashi Naru, Kingdom of Hamil, Lord of the Mansion, Message of Andromeda, Mindshadow, Monsters of Murdac, Lifeterm, Mordens Quest, Mountains of Ket, Necris Dome, Never Ending Story, Nova, Nythyhel, Planet of Death, Questprobe, Rebel Planet, Rigels Revenge, Robin of Sherwood, Robicide, Seabase Delta, Shard of Inovar, Sharpes Deeds, Ship of Doom, Case of the Mixed-up Shymer, Smashes, Sould of Darkon, Spytrek, Starwreck, Subsunk, Thesus, Top Secret, Very Big Cave Adventure, Warlord, Winter Wonderland, Wizard of Akryz.
Graham Wheeler, 2 Burford Close, Southdown, Bath, Avon, BA2 1JF.
Tel: 0225 26919.

• The Pawn, Sorcerer, Planetfall, Leather Goddesses of Phobos.
C.F.H. Bass, 21 Third Close, E Molesey, Surrey, KT8 9PW.

• Heroes of Karn, Imagination, Seabase Delta, D.A.A n Everythin, Fourht Protocol I, II & III, Ship of Doom, Message from Andromeda, Kobyashi Naru, Questprobe III, Forest at Worlds End, Wild Bunch, Knight Tyme, Spellbound, The Hobbit, Bugsy Part 1 only, Mops To, Heroes of Karn, Seabase Delta, Gremlins, Lord of the Rings (Part II only), Robin of Sherwood, After Shock.
Russell Cooper, 12 Butlers Close, 52 Butlers Road, Handsworth Wood,
Birmingham. B20 2PA.

• Adventure Quest, Aftershock, Apache Gold, Arnold Goes to Somewhere Else, Boggit, Bored of the Rings, Brawn Free, Castle Blackstar, Castle of Skull Lord, Classic Adventure, Colossal Adventure, Colour of Magic, Crystal Theft, Dodgy Geezers, Dracula, Dungeon Adventure, Dungeons, A,A 'n Everythin, Emerald Isle, Enchanter, Erik The Viking, Escape from Khoshima, Espionage Island, Fantasia Diamond, Forest at Worlds Ends, Heavy on the Magick, Heroes of Karn, Hitchhikers Guide to the Galaxy, Hobbit, Imagination, Inca Curse, Jewels of Babylon, Kentilla, Lords of Time, Message of Andromeda, Mindshadow, Morden's Quest, Necris Dome, Never Ending Story, Price of Magik, Project Volcano, Qor, Questprobe III, Red Moon, Return to Eden, Seabase Delta, Seas of Blood, Smugglers Cove, Snowball, Souls of Darkon, Spellbreaker, Spytrek, Subsunk, Sydney Affair, Terrormolinos, The Case of the mixed-up Shymer, The Trial of Arnold Blackwood, Vera Cruz Affair, Very Big Cave Adventure, Warlord, Wise and Fool of Blackwood, Worm in Paradise, Zork I
Joan Pancott. Telephone 0305 784155 – Any Day – Noon to 10pm.

• For technical help on Commodore 64 Basic and Machine/Assembler language. Please contact Johnathan Kendall (for most problems would you please write!) I will endeavour to reply to all letters – if you enclose a stamped addressed envelope!
Johnathan Kendall, 27 Bishop Bridge Road, Norwich, Norfolk, NR1 4ES.
Tel: 0603 625987

• The Pawn, Sorceror, Planetfall, Leather Goddess of Phobos, Hitchhikers Guide to the Galaxy
Colin Bass, 21 Third Close, E Molesey, Surrey, KT8 9PW.

• The Pawn plus early stages for Guild of Thieves (I've only scored 300+ points so far).
Clive, 66 Billett Lane, Berkhamsted, Herts, HP4 1DR.

• I can help Spectrum owner with GAC, +2 loading problems, removing attribute clash + any basic programming problems, GAC, PAW and I also have an extensive knowledge if ZX BASIC. I can help fellow P B Mers on Hade Games 'Avalon'. Just send an SAE to:
Matt Burke, 33 Brookhouse Hill, Fulwood, Sheffield, S10 3TB.

• Jack The Ripper (p1-3), Dracule (p1-3), Hampstead, Big Sleeze and others.
N Buzzard, 11 Faversham Drive, Weston-super-Mare, Avon, BS24 9NZ.

• Let me know your problem with Football director, The Double Soccer Boss, Premier League and Soccer Star and I'll sort you out. Send SAE to:
Paul Phillips, 29 Ormestone House, Hartcliffe, Bristol.

• Adventure Quest, Castle Blacktar, Classic/Colossal Adventure, Dungeon Adventure, Emerald Isle, Gnome Ranger, Guild of Thieves, Hacker, H.H.G.T.G, Jinxter, Knight Orc, Leather Goddesses, Lords of Time, Mindshadow, Nord and Bert, The Pawn, Planetfall, Price of Magik, Red Moon, Return to Eden, Snowball, Wishbringer, Worm in Paradise
Phil Armstrong, 92 Dryden Road, Low Fell, Gateshead, Tyne & Wear. NE9 5TX
Tel: (091) 4875639

• The Colour of Magic Part 1 and some of Part 2.
John Morris, 130 Avondale Road, Shipley, West Yorkshire. Tel: 0274 586238 weekdays 3-6pm, weekends all day.

FOR SALE

• **Commodore** 64, 1541 D/Drive, datasette, carry case, joystick, some software inc Outrun, Buggy Boy. £350 ono. Buyer collects. Tel: 01-890 4647 after 7pm. Bedfont, nr Hounslow.

• **Spectrum** + 3, Multface 3, loads of great games (too many to list), cassette leads, cassette recorder, posters, joystick, every issue of 'Input'. £250 ono. Phone Barry on 01-803 3873.

• **BBC B** 0S1.2, Ferguson data recorder, software value £1000+, joysticks, books, manuals, magazines (Micro-User issue 1 - Present) video cassette (programming). Sell for £400. Tel: Bolton (0204) 29248.

• **Electron**, cassette recorder, plus 1, slogger joystick interface, c. 30 magazines, £325 plus of games, very good condition, worth £550 plus, only £190 ono. Tel 01-398 2542 after 5pm.

• **Commodore** 64 games for sale, over 144 titles, all originals, prices from 50p to £6.00. Tel: Findern 701353. 37 Hillside, Findern, DE6 6AZ and ask for Jason.

• **£130**, that's all. Commodore 64 plus datarecorder, Trilogic's expert backup system, joystick, £400 worth of software. Interested? Tel: 0530 33553. No offers.

• **Sega** console with light phaser, new joystick, After Burner, Rocky Quartet, plus eight more. Worth over £320, sell for around £200 ono.

• **CBM** 64. datasette, joystick, mags and over £600 of original games. Total price £850, asking £175. Tel: 01-701 8209, ask for Kunu.

• **Spectrum** Plus, RGB adapted, wafadrive, datarecorder, Inkjet printer, interface for printer, Multface adaptor, Quickshot joystick, lots of software, bargain £230. Phone Jason on 01-348 0870 after 6pm.

• **BBC** B DFS with Intersheet and Wordwise Plus ROM chips, colour monitor, teletext adaptor, dual 40/80T disc drive, tracker ball, joystick, Studio 8, Database, other games £575 ono. Tel: Jonathan (0249) 651440 8-10pm.

• **Atari** ST discs half price or less. All originals. GFL Football, Nord and Bert, Leather Goddesses, Wishbringer, Pawn, Guild of Thieves, Jinxter. Great condition. Offers? Tel: 091 487 5639.

• **Spectrum** 128K, joystick interface, cassette deck, mags (Crash, YS, SU) and over £260 of software (Cobra, Outrun, 6 Pak, Sidewize) worth well over £500. Sell for only £130 ono. Phone 01-337 4034.

• **100%** original Amstrad software tapes only £5! Top games, top software. All new! Ring no 051-428 8844. Blank 3" Amstrad disks only £2.75 each.

• **Amiga** A500, modulator, disk box, disks, joystick, Textcraft, D'Paint, mouse, two months old, guaranteed, mint condition, 24 games incl Xenon, Garrison, Road Wars, Sidewinder, Music Construction free! £400 ono 0592 51320.

• **CPC** 6128 colour stereo amp, speech synthesiser, Multiface Two, loads of software, mags and books, joystick, extension ribbon, tape deck and leads. Worth £700. Sell for £450 ono. David 0666 53807 after 5pm.

• **Commodore** 128, cassette unit, £250 worth of software £160. Also selling Atari ST Pascal 2 (Metacomco) £35 + Hisoft Devpac ST £23. Phone 01-524 4707 now! (Chineford area) London E4.

• **Amstrad** 6128 disc, includes colour monitor, tape recorder, joystick and loads of games (Cybernoid etc). Sell for £299. Good condition. Phone (0707) 59908 after 5pm and ask for David Coates.

• **48K** spectrum for sale. Over £150 of games, also magazines, interface datacorder, all leads, manuals and totally boxed. Worth £350, sell for £110. Tel: Beverley 0482 868909 after 4pm.

• **Atari** 520STFM plus software and Star NL10 printer, still all under guarantee £450, will split. Phone Nottingham (0604) 482438 after 6pm.

• **Modem**, WS4000 V21/23 by Miracle Technology, Auto Ans, Auto Dial, full memory, a superb 'smart' modem with leads, only £90. ST comms software available if required. Tel: Garstang 2318.

• **Spectrum** 128K + 2 with £700 worth software inc, Cybernoid, Firefly etc. Also Quickshot II, magazines, Sinclair User, Your Sinclair, C&VG. Reasonable offers phone (0608) 2605 after 4pm.

- **C64**, C2N, 1541, speech synthesiser, light pen, midi interface, joystick, midi software, loads of games. £275 ono. Phone Paul 061-797 0776 after 6.30pm.

- **C64**, 1570 drive, joystick, quick disc, 68 disks, disk box, tape recorder, 41 tape originals, 6 disk originals, sell for £200. Tel: Stafford (0785) 54680, ask for Mark after 6pm.

- **Many** magazine back issues – C&VG, Commodore User, Zzap64 and more. Over 100 to sell. Offers to J Phillis, PO Box 216, Rockhampton, Queensland, Australia 4700. Must sell all!

- **CBM64**, 1541C MP2803, datasette, Action Replay 3, 1541C and CBM64 under warranty. Many games, utilities and business software, also tapes, disks and lots more. Buyer pays P&P. £335. Phone Keith 0329 236658.

- **Amstrad** CPC464 colour monitor, AMX mouse and £700 worth software, all worth over £1000 plus magazines. Contact Tom on Northampton (0604) 57812. Price £250 ono.

- **CBM64**, disk drive, datasettes, 2 joysticks, 3 cartridges, backup board, mouse and cheese, Basic compiler, Motherboard, Music Maker, Designers Pencil, Turbo Chip, disks, games, only £370. Phone Corby (0536) 63845.

- **Amstrad** CPC 6128 with colour monitor, Multiface 2, rom board etc, with books and software. Will sell for £275. Phone Billinge, Lance 0744 894006.

- **Atari** 520STFM, new boxed, with joystick, cover, mags, and many original games inc Dungeon Master, Xenon etc. Bargain £295. Tel: Nick (0227) 69189 after 6pm.

- **128K** + 2, Multiface 128, Quickshot Turbo (all under guarantee), Sinclair joystick plus interface, over £100 worth best selling titles. B&W Sanyo TV, the lot for £160. Tel: (0484) 842844.

- **Amiga** A1000 V1.2 512K and 1081 monitor, utilities, games and books, mint condition – £600 ono. Phone Pat on 041 776 7462 after 6pm.

- **Spectrum** 128K + 2, Multiface 128, Timex printer, £450 in games £150 in mags, books, extras. Worth £900, sell for £350. Games include Driller, Trantor, Gauntlet, Sidewize etc. Phone (061) 320 5632.

- **Multiface** One £20, Kempston 'E' Centronics printer interface £25, also Currah Microslot with Microspeech £6 original software for sale, ring 061 430 5478 and ask for Adam for details.

- **C64** with tape deck, one joystick and £400 software, reset switch for £140. Please contact Andrew Burns on Watford 35881.

- **Spectrum** Plus 3, Multiface 3, two joysticks, data recorder, word processor plus £200 worth software, under guarantee £300 ono. (0702) 218594.

- **CBM** 64, disk, tape, MPS801 printer, word processor, games, joystick, worth over £800 new. £300 ono. Phone Paul on Erith (03224) 32580 after 5pm.

- **Atari** STFM boxed, six months old, under guarantee, over £500 software including Dungeon Master, Oids, Rolling Thunder, Comp Pro joystick, keyboard cover, mouse, everything perfect condition £340. Blackpool (0253) 890048.

- **Spectrum** 128, Genius mouse, Multiface 128, ram turbo and Comcon joystick interfaces, Currah Speech, data recorder, all boxed. 127 games, value over £1000, will accept £350. Tel: Wakesfield (0924) 896242.

- **Commodore** 64 and excelerator + disk drive for sale, 'loadsa' games worth over £360, offers around £220. Perfect condition. Phone between 7pm-9pm on 01 883 5695 and ask for James.

- **Spectrum** 128K with Alfacom 32 printer, Phillips tape recorder, 2 joysticks, Turbo interface, over £400 worth software. phone Dave on Swanley 0322 66418 £220 ono.

- **Spectrum** +, data recorder, ram turbo joystick interface and two joysticks, also £40 original games. Worth over £450, will sell for £150. Ring (0621) 59419 after 4pm (Essex).

- **Spectrum** Plus Two, £1000 software, Disciple, 5.25" disk drive (780K), Speech Synthm Multiface 128, AMX Mouse, Specdrum, all boxed as new, worth £1500, sell for £400. Tel: (051) 424 6134.

- **Amstrad** 464, colour monitor over £350 software, cassette holder, magazines AA, ACU, Amtix, joysti8cks, blank tapes, tutor books worth over £750. Sellf for £250 ono. Tel: 061 436 2620.

- **BBC** computer, joystick, tape deck, all the leads plus 18 games for only £240 or nearest offer. Phone Nottingham 866016 (evenings).

- **CBM** 64C, Excelerator plus disk drive, datasette, joystick, over £100 worth disc software inc. Seuck, Gunship etc. 9 months old, sell £240 ono. Tel: Stevenage (0438 361881 after 5pm.

- **Atari** ST original games, £4 each, CBM 64 original tape games, £1 each. For complete lists send SSAE to Mike, 61 Riverview Close, Hallow Road, Worcester, WR2 6DB.

PUBLIC HEALTH WARNING

Needless to say, we cannot ourselves vouch for the credentials of any particular entry in this section. If you respond, it's at your own risk.

- **Commodore** 64 and data cassette extras:- Currah Speech 64, Lightpen, C64 games book 2, Variety of games, plus C64 Prog. Ref. Guide worth £10. All £100 ono. Tel: Hitchin 816762.

- **Amstrad** 6128, colour monitor, mouse, data recorder, loads of software on tape and disk, joystick. Worth £1000. For quick sale £400 reason for sale! Tel: 0422 78432.

- **Amstrad** original games, 11 disks, Advanced Art Studio, GAC, Armageddon Man, £10 each. Enduro Racer, Gauntlet etc. £8 each. 32 cassettes inc TT Racer, Tomahawk £5 each. SAE for list, 21 Delamere Drive, Marske, Cleveland, TS11 6DZ.

- **Atari** ST FM, Mouse, 2 joysticks, mags, games including Gunship, Xenon, Backlashm Supersprint + many more, excellent condition, still boxed: Xmas present, bargain at £340. Phone: (0469) 76883, Sth Humberside.

- **CBM** 128, 1570 drive, 1701 monitor, tape deck, mouse, joystick, £900+ of software, worth £1500+, sell for £450. Contact Simon Gibson, 49 Grosvenor Place, Jesmond, Newcastle Upon Tyne, NE2 2RD (091) 281 0269.

- **Spectrum** +2, mags, 2 joysticks, £400 worth of software, all only six months old, worth £600, sell for offers around £250. VGC. Phone (0827) 894003 and ask for Justin after 5pm.

- **Amstrad** CPC 464 (mono), joystick, £400 games (all originals) mags 15 £400. Wanted Amstrad CPC 664 also 2 ZX81. Ring 061 633 3720 or 626 5044.

- **Amstrad** 6128 with colour monitor, over £150 worth of games, adventures etc. Tape deck + leads. sell for £300 ono, or swap for a 520 STFM. Phone (0364) 53770.

- **Amstrad** 6128, colour monitor, excelent condition, joysticks, magazines, blank discs, software worth £650, all originals on disc including: Gauntlet, Renegade, Rampage, Arkanoid, GAC, Driller. Bargain £450! Ring (0786) Stirling 73859.

- **Spectrum** 128K+, excellent condition, original packaging, organ waster with keyboard, cassette leads, over £50 worth of recent games, £100. Phone (Poole area, Dorset) (0929) 462673 after 4pm. Ask for Richard.

- **Amstrad** 464, colour monitor, AMX mouse plus art software, books, joystick and manual, over £200 software, still boxed. Worth over £600. Will sell for £299. Ring 0494 724968 after 5pm.

- **Original** Amstrad 464 software, Combat School, Catch 23, Trivial Pursuit plus another 26 games worth £124. Will sell for £50. Telephone 098686 595 after school hours, ask for Dean.

- **Commodore** 64, 1541 disk drive, MPS803 printer, C2N, expert cart., joystick, logo, machine lightning, speech cart., word processors, games worth £750 (disks and cassettes). Sell for £350. Tel: (0883) 47768.

- **Calling** all Spectrum 48/128 owners! Music Machine £25, Amstrad DMP1 printer with interface £45. Multiface One £20. Loadsa software (all originals) from 50p. Phone Toby on 01-739 3736.

- **Amstrad** CPC 464 with monitor over £300 of original software, drum machine, joystick, excellent condition, bargain at £220. Tel: 0245 329600.

- **Commodore** 64, £400 worth of software, 2 C2N decks, back up system, joystick, mouse + cheese, manuals in excellent condition. Will sell for £175 ono. Phone Ruislip 631895.

- **Nintendo** for sale, boxed with five cartridges, sell for £150 (worth £180) ono or swap for Sega Master System. Tel: (0642) 786482 after 6pm

- **Amstrad** 464 mono, modulator, joystick, lightpen, 64K rom, speech rom, 64K silicon disc, cover, £800 software, magazines. All for £300. Write to Stephen, 58 Hill Road, Watchfield, Shrivenham, Nr Swindon.

- **C64**, datacassette, £300 latest original games including Seuck, California Games, Cybernoid etc, 50 mags, books, powerpack, 3 joysticks, worth £700. Will accept £260 ono. Phone Matt on 051-336 4006 after 4.30pm.

- **BBC-B** plus: cassette player, software worth £200. Worth £600, sell for £240 ono. Contact Mr Morbi on 01-902 9371 or write to 94 Wembley Park Drive, Wembley, Middlesex, HA9 8HW.

- **Must** sell for £369 before September or swap for Atari STFM summer pack. BBC-B 0S1.20, Acorn DFS, disc drive, twin joystick, AMX mouse, Super Art & Rom V3.31, £100s worth of games, discs, mags, manuals, tape recorder. Tel: 06845 63343.

- **Casio** CZ230S box, guarnateed with midi in out thru £200. CZ1000 box midi in out £250 or swap for an Amiga. Some ST games for sale. Phone 01-870 1884.

- **Spectrum** software for sale, Hit Pak, Space Harrier, Trivial Pursuit, Hyperbowl, ATV simulator, Frogger, Scrabble, Amaurote, Milk Race, Zzoom, Zub. £25 the lot (all originals). Tel: 0935 706551.

- **Amstrad** CPC 6128, colour monitor plus Sony TCM-828 cassette player and load of high reviewed software (mostly disk-based) worth over £600. Sell for only £300 or less! Phone Anne 0232 662375 after 6pm.

- **Spectrum** 128 spec+ B/W TV, recorder, 2 joysticks, over £400 software, 2 carrying cases – Complete set! £400 ono. contact 0222 568496.

- **Atari** STFM, still boxed, lots of software" Rampage, Barbarian, Starwars, Degas Elite etc, mouse, manuals. Sell for £300. Phone 0733 51733 5-6pm ask for Sahid or swap for Amiga.

- **Amstrad** 464 over £400 of software including lightpen with pad. Worth £1000, selling for £250 ono. Phone 89672 Locks Heath, Southampton.

- **Amtrad** CPC 464, includes computer green screen monitor, MP1 modulator, over £300 worth of software. Tel: (0745) 826358 after 6.30pm and ask for Steven. Includes free gift if bought!

- **Amstrad** CPC464, colour monitor, joystick, £250 worth of games, magazines. All this for just £250. Contact: David Ward, 27 Prospect Road, New Barnet, Herts, EN5 5AD. Tel: 01-441 3128.

- **CBM64**, disc drive, datasette, sound sampler, speech synthesiser, lightpen, Action Replay cartridge, Music Maker, joystick, software and mags. £300 ono. Phone Chris after 5pm 0582 667150.

- **Amstrad** CPC 464 with colour monitor and speech synthesiser (£200) and Sega Master System (£120). 201 games with Amstrad, 6 games with Sega. Phone 01-461 1389 (Bromley, Kent).

- **Atari** 520STm with mouse, 1 Meg drive with games and utilities, runs all software titles unlike new STFM. All boxed. Eexcellent condition, £290 ono. Tel (0904) 762702 ask for Jason.

- **CBM64**, C2N, £800 games, many magazines, backup board, excellent condition, all worht over £1000, will accept £320 or swap for Atari 520STFM. Contact 09867 3294 ask for Rick.

- **Spectrum** + 3, over £160 worth of software and hardware inc. Outrun, Ikari Warriors etc. All for £190. computer under guarnatee. Write to Z.A.R. 56 Sewell Road, Bradford, BD3 9TD with SAE (games on cassette and disk).

- **Commodore** 64, excelerator, disk drive, datasette, freeze machine, 2 joysticks, 55 plus games including Nebulus, Seuck, five books, 14 Zzaps, £350, no offers. Tel: (Selkirk) 0750 21837 after 6pm.

- **C64**, 1541C disk drive, 1531 data cassette, cartridges, new slimline case, disk cases, excellent condition, all manuals, only £300. Phone (091) 2576802 ask for Richard after 4pm.

- **Amiga** 500, 40 disks, 2 joysticks, C64 music exp+ keyboard, 100's games, books, datasette, midi interface, will sell separately. £800 ono the lot. Tel: 0935 29358.

- **Spectrum** 48K with leads, programmable interface, Quickshot two joystick, 100+ games, also 30 Crash magazines worth £1000+. Will accpet £150. Tel: (0285) 5692. after 6pm.

- **Spectrum** 48K, joystick, mouse, tape deck, games, blank tapes, magazines (YS, Crash etc) machine-code book, gaphicsbooks. Will sel for £200 ono. Contact Simon on Epson 20347. Will sell separately.

- **C128** for sale with 1531 and printer, mouse and joystick, loads of games and all Input mags. £330 ono. Ring (0432) 263470 and ask for Ian.

- **Commodore** 64 with Music System (sound sampler full size keyboard etc) over £1000 of games. Still guaranteed (2 years) boxed £200 ono. Ring John on 01-740 8090 (office hours only).

- **Spectrum** + 3, Multiface 3, data recorder, 2 joysticks, £360 worth of games, all only 8 months old, still under guarantee, worth £600+, sell for £250. Phone Manchester 061-653 9769 after 6pm.

- **Amstrad** 6128 with colour monitor (as new) with over £500 software (GAC, Driller, Sentinel etc), books and magazines £450 ono. Phone Dave 01-556 9643 after 7pm (East London area).

- **128K** Spectrum for sale, boxed, interface 2, joystick over £500 worth of leading games eg. Barbarian, Super Hang On, Renegade Plus, loads of mags, YS, SU. £250 ono. Ring Staines 51155.

- **CBM64**, cassette, binder of Zzap! £430 software, Quickshot Two + joystick, two power packs, power caretridge, books, reference guide, worth £700 only £250 (ono). Phone paul after 6.30pm on 01-393 9741.

- **Atari** ST software Captain Blood £15, Gauntlet £10, Golden Path £8, Barbarian £10, Tracker £6, Ultima IV £10. Phone Rick on (0829) 70799 after 7pm. All software originals.

- **Amstrad** 6128 colour monitor, music machine, tape recorder, over £250 software, mags, great condition £350 ono. Phone Stu on Kinver 877112.

- **Atari** STFM 520, mouse, one meg drive (Cumana), joystick, very latest software. Both six months old, boxed £360 for both, postage included. Perfect condition. Phone 0202 696151 ask for Guy.

- **Spectrum** plus joystick and interface, good condition, over 70 games including Outrun, Renegade, Barbarian, magazines. Will sell for £100. Ring New Milton (0425) 616769 after 6pm, ask for Robert.

- **CBM64** datasette, 2 joysticks, mags + many games inc Airborne Ranger, Last Ninja, Appolo 18 and We Are The Champions. Will sell for £180. Tel: (Corby) 0536 744519. Quick sale!

- **Lynx** 96k with sexy grey powersupply and absolutely no software whatsoever. Call 0225 447723 and ask for Mac.

- **CBM64** + disc drive + modem + printer + £250 games + around 80 games on disk + 2 joysticks, everything boxed. All for £280 ono. Phone 061 223 5114 between 6pm + 8pm for details, ask for Darren.

- **Spectrum** +, joystick, switchable interface, light pen, software, books and spare keyboard for sale. £65 or near offer. Phone Simon on (0784) 57195.

- **Amstrad** CPC 464 colour monitor, over £100 worth of software + loads of magazines. Under 1 year old. Worth over £500. Bargain £230 ono. Phone Rick on (0494) 711885.

- **Atari** 520STFM, SM125 monitor, 2 disk drives, Fast Basic (rom), 100+ games, disk box, mouse mat + mags. Worth over £1500. Sell for £390. Phone Darren (0430) 440735, Newport, N Humberside.

- **Amstrad** DD-1 disk drive with interface + 25 games. £125 ono. Also speech synthesiser, light pen + 75 original tapes for Amstrad. Sell for £100 ono. Tel Nick 0302 (Doncaster) 530818.

- **128+2** Spetrum vgc inc games, joysticks 100. Over 140 original games worth £1000 – £150 ono. Both computer and games £200 ono. Phone Basingstoke (0256) 59836 after 6pm.

- **Atari** 800xl, excellent condition plus £70 worth of games, cass recorder, joystick and leads. Worth £170, sell for £100 ono. No reasonable prices rejected. Tel: (0879) 62916.

- **CBM64**, 1541 disc drive, two tapedecks, joystick, £600 games, Action Replay, blank discs and cassettes. £350 ono. Phone Pembroke (0646) 682498 and ask for Damian.

- **Complete** 48K+ system, worth over £500. All you could possible need for only £200. Call Ian on 09952 5846.

- **Spectrum** Plus 3 (six months old) with two joysticks and £120 of software inc Gunship, Driller, Gauntlet and many more. Will sell for £200 ono. Phone Michael on Leeds 533947.

- **Sega** games system, five games including Afterburner with brand new Konix joystick. Worth £215, sell for £115 or swap for CBM64. Phone Leicester (0533) 671410.

- **CBM** 128, C2N datasette, loads of tape software £250 ono. 1541 disc drive, loads of disc software £150. Buy C128 and 1541 together only £325 ono. David 01-549 0360.

- **Commodore** 64, data casette, disk drive, modem, music mker, disks and manuals, only £250 ono. Must go! Phone mike on Leicester (0533) 606820.

- **Spectrum** 128K microdrive and interface, snapshot interface, joystick and interface, speech synth, tape deck, over £300 software, mags, books, £700 new, sell £180 ono. Tel Grant (0706) 38893 after 5pm.

- **CBM64**, 1541 disc drive, tape deck, joystick, backup board, loads of mags and software on disk and cassette, all in excellent condition. A real bargain £195. Phone 044282 4139 after 6pm.

- **CBM 64**, 1541 disc drive, data recorder, 5 blank discs £40 software music keyboard £20 magazines £220 ono. Tel (0754) 73400 between 5pm to 10pm.

- **Amstrad** CPC6128 + colour monitor mint condition plus much top software games/wp/strat/advent/inc Pawn, Guild, Leather Godesses etc. New arrival forces reluctant sale £255 ono. Mark, Chobham (09905) 8234.

- **Atari** ST originals for sale: Soccer, Backlash, Star Wars, Test Drive and more. £7 each. Phone 03303 367.

- **ST** picture conversion, convert Degas, Neo to tiny, or vice-versa. 10 pics = 70p 20 pics = £1.10. Send disk and postal order to: ST Services, 244 Saltash Road, Keyham, Plymouth, PL2 2BB.

- **Amstrad** CPC 464 mono monitor, TV modulator, over 150 pieces of software etc, together worth over £700. Bargain at £300 or swap for Atari 520STFM. Phone 061 724 0186.

- **Amstrad** CPC464, green monitor, joystick, software, magazines, excellent condition. £150. Won't split. Also have Commodore C2N datassette for sale at £20. Contact: M Baldwin, 104 Primrose Close, Bolton-on-Dearne, Rotherham SG3 8BX.

WANTED

- **Vectrex** cartridges wanted. will pay very good prices. Please write to: J Withers, 27 Rogers Court, Swanley, Kent, BR8 8AA.

- **P.A.W.** wanted for Spectrum 48/128, will swap for three of:- Crazy Cars, Gee Bee Air Rally, Outrun, Combat School, Bobsleigh, Head Over Heels. (0934) 813282). P.A.W. must load and contain documentation.

- **Datacassette** for a CBM64 wanted, please telephne Sheringham 824311 or write to Ben Farrow, 16 South St, Sheringham, Norfolk, NR26 8LL.

- **Swap** Spectrum 128 + 2 incl interface + over £300 of software for Commodore CBM64 and C2N + software (any type). Phone Andy 0787 313220 or works 0480 65289.

PENPALS

- **Wanted** C64 users from all over the world. Write to Alpha One, 100 Lancaster Gate, Flat No 11, London W2, England.

- **Amiga** penpals wanted. I have many hints, guaranteed reply. Steve, 51 Cecil Avenue, Barking, Essex.

- **Amiga** 1000 owner seeks penpals from all over the world. Interested in graphics, adventure games, music, demos and arcade games. Write to Miss Julie, The Beechers, Creek Road, Currumbin Valley 4223, Australia.

- **Atari** ST owner wanted to swap hints and tips. 100% reply. Send to Simon Luff, 17 Fairways, Fullwood, Preston, Lancs. PR2 4FX. Tel: 0772 715365 between 7pm-10pm.

- **ST** owners wish to hear from other owners. Write to Alex, 17 Spurhill Avenue, Parkstone, Poole, Dorset, BH14 9PB. All letters answered.

- **Atari** ST owner wants penpals any ages. All letters answered, write to M Gilmour, 49 Coniston Avenue, Little Hulton, Manchester M28 6NY. Tel: 061 799 9273 after 5pm.

- **Amiga** owner wants contact any country. Write to: Dennis, 16 Gilbert Street, Dover Heights 2030, Sydney, NSW Australia. Tel: (02) 371 9149.

- **Atari** ST contacts wanted to swap hints and tips etc. No beginners! Post in general direction of Neil, 32 Wilnecote Lane, Belgrave, Tamworth, Staffs, B77 2JA.

- **Amiga** contacts wanted. Write to: Ian Cummings, 15 Nelson Close, Horden, Peterlee, Co Durham, SR8 4BY or tel (091) 5870885 after 6pm please. All letter answered.

- **Amiga** owner would like penplas from all over the world. If interested contact Jeff at 45 Westbury St, Laisterdyhe, Bradford, BD4 8PB, England. All letters will get a reply guaranteed.

- **Atari** ST contacts wanted from all over the world. Reply guaranteed. Contact Matt Ellard, 'San Remo', Wueens Gardens, Bilston, West Midlands, WV14 6PZ, England. Tel: 0902 409203 between 4-10pm.

- **Amiga** contacts wanted. Write to Daz, 2 Park View, Arrow, Alcester, Warks, B49 5PN. All letters answered.

- **Atari** ST owners! Contacts wanted from all over the world. Guaranteed reply. If you are interested then please write to Daniel Tingle, 63 Gainsborough Road, Dronfield, Sheffield, S18 8QT.

- **Atari** ST penpals wanted from overseas especially. I have all the latest stuff. Contact Richard, 6 Shirley Drive, Bramley, Leeds, LS13 1ES. Tel: 0532 565134, must be fast. Guaranteed reply.

- **ST** contacts wanted, guaranteed reply. Write to Miguel Chambel, Rua Don Estefanea, 79-4º 1100 Lisboa, Portugal.

- **Atari** ST contacts wanted to swap hints, tips etc. Only reliable owners please. Get writing mates (oo-er) promise every letter answered. Write to: 60 Minerva Close, Latchford, Warrington, Cheshire, WA4 2XN.

- **Amiga** contacts wanted. Write to: PLK 040639C, 4370 Marl, West Germany.

- **Amiga**, Atari ST contacts wanted, guaranteed reply. Write to Ruud V/D Kruisweg, Zwaluwstraat 60, Sogy A6 Hattemerbroek, Holland or phone (05207) 2029.

- **Atari** ST contacts wanted any age welcome. Guaranteed reply. Alan, 26 Prescott Close, Banbury, Oxon, OX16 0RD. Fast and reliable contacts only! Especially overseas.

- **Amiga** contacts wanted to swap hints, tips and public domain software. Please send all letters to M P Moyse, 41 Kelvin Close, Arborfield, Reading, Berks, RG2 9NT. All letters will be answered.

- **Atari** ST contacts wanted. All letters answered straight away. Write to: Lee, 12 Mortimer Road, Royston, Herts, SG8 7HS.

- **Amiga** contacts worldwide write to: Phil Durbridge, 23 Wollaton Road, Bradway, Sheffield, S17 4LD.

- **Amiga** contacts wanted around the world. Write to Mark, 34 Berwick Crescent, Sidcup, Kent, DA15 8HR, England. Interested in games and demos? Then get wribng!

- **Atari** ST contacts wanted from all over the world. Bonvin F-X., Amandiers 5 CH 1950 Sion, Switzerland.

USER GROUPS

- **Irish** computer users group which support Atari, Commodore and Sinclair computers, hints and tips, newsletter, S/W library, maintenance + much more. Contact Jason on Dublin (01) 266326.

- **Adventure** Probe! The monthly fanzine for adventurers only. Two years old and still going strong! Send £1.25 for sample issue to: Adventure Probe, Dept X, 24 Maes Y Cwm, Llandudno, Gwynedd, LL30 1JE.

OTHER

- **Sharp** M2-731 computer and data recorder + printer/plotter + mags, software, manual, costs more than £600. Still boxed. Swap for an Amiga. Phone (0628) 76861 after 7pm. if interested.

- **Atari** ST PD and any of your own software wanted for a small public domain library. Please send disks to C Smales, 2 Old Mill Close, Market Weighton, York, YO4 3DU. All disks returned.

- **Fighting** Chance, an amazing text adventure for the Spectrum. To order send a cheque/PO for £5.50 to: T Murray, 2 Marlow House, Hallfield Estate, London W2 6HJ.

- **Want** instructions on how to make automatic left/right joystick waggler? Using an autofire circuit from Cheetah 125, joystick plug + switch (optional) send SAE + £1 to N Bache, 7 Glebe Lane, Norton, Stourbridge, West Midlands DY8 3YH.

- **The** Cheat Machine. More than a fanzine.. it' an experience. Over 50 cheats in every issue! Tips, maps, budget, adventure, the helpline, letters, sales, wants, offers, public domain, and loads, loads more! New expert cartridge column in issue 3. Reviews + news. If you need help in any game, The Cheat Machine will help – You can be sure of that! For the CBM64, TCM costs £1 per issue., Write to: R Troughton, 42 Browfield Terrace, Silsden, Keighley, W Yorks, BD20 9PT.

- **Amstrad** CPC pools prediction/checking program. send £3 + stamp and tape in suitable package to: Pools Program, Treventon, Well Lane, St Kervene, Helston, Cornwall (sorry but tape only).

- **Do** you want to earn over £50 a week in your spare time? (No experience needed) Send SSAE to Jim, 81 Glebelands Road, Prestwich, M/C, M25 5WF for free info pack.

- **Free** fanzine featuring articles and reviews for all popular formats as well as music, films, and roleplaying when you send 20p + SAE to Microgamer subs, Holly Tree House, Welby, Lincs.

- **Leisuresuit** Larry in the Land of the Lounge Lizzaards solution, jut send £1.00 inc p&p and your name and address to: Anthont Ferguson, 10 Craiglockhart Terrace, Edinburgh, EH14 1AJ.

- **Public** domain software for BBC, private enterprise, send SAE to Mr VJ Spanner, Retriever Lodge, Tudor Close, Seaford, Sussex, BN25 2LU.

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All you have to do is send off the form below, together with your payment; Entries to the Pink Pages cost just £2.50 each. (Except for Helpline which is free).

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THE BLITTER END...

GO LOOK AT QUESTIONNAIRE

Stop reading this at once! You haven't filled in the questionnaire on page 100 yet, and that makes us Blitter End folks real angry. How are people supposed to produce a better mag (yes, even ACE can be improved upon) if you don't tell 'em what you want? Speak your mind! Demand a bigger Blitter End, with higher-paid staff and more perks! Insist on full colour for all those photos of software people making complete fools of themselves!
You know it makes sense.

A MISTAKE? OKAY, OUR PUZZLE SUCKS – INITIALLY! (4)

Oh dear! Word-puzzle afficionados will have had a bit of trouble tackling the crossword on page 125 of the last issue. Is it the fiendish intellect of ACE clue compiler *Mips* overwhelming even the brainiest of our readers? Are all those games, art packages and music systems sapping your lexical skills perhaps? Well no, actually it's more a case of us printing the puzzle wrong. Quelle grande OOPS!

Fortunately only the down clues were affected, and only a few of them at that (as if that made things better). The catalogue of disasters reads as follows: the clue for 12 Down was left out; the 13 Down clue was labelled as being for 12 Down, even though it was the wrong length; and the clue for 15 Down was labelled as being the non-existent 16 Down. Clues 12-15 Down should have looked like this:

12. Game that appears obscene to a man (4,3)
13. Writing instructions for computer head doing translation (6)
14. At home *Diplomacy* is all there (6)
15. Where to shop for memory space (5)

Needless to say (a) we'll accept blanks for the offending answers on any prize claims, (b) we really are terribly sorry and (c) it won't happen again. Honest.

DARTH VS DOMARK

Dominic Wheatley and Mark Strachan, those two starlets of computer publicity shots better known as Domark, have come up with a little cracker to plug their forthcoming tie-in *The Empire Strikes Back*. The chief point of interest here is Darth Vader's oh-so-shiny headgear: observe how practical it is in wet weather compared to an umbrella (Darth still has both hands free for high-energy weapons) or nothing at all (a very poor way of dealing with rain indeed). What a sensible old Sith Lord that Darth is!

QUELLE SURPRISE!

Back in ACE Issue 9, we teamed up with Ere International and offered a couple of lucky readers the chance to spend a luxurious weekend in Paris. All you had to know was that section A was from *Phoenix*, section B was from *Captain Blood*, section C was from *Spidertronic* and section D was from *Get Dexter*.

The suitably-named A.Jaques from Manchester managed to get his name pulled from the sack first and will soon be jetting across the channel for a fun-packed weekend.

The 20 runners-up who also knew the answers each receive a copy of any game from the Ere range were:
Mark Jones, Manchester. Ian Gibbons, Blackpool. Kevin Rodgers, Rugby. Neil Seward, Bristol. An Dat Phung, Dunfermline. Mark Swettenham, Liverpool. R. Ballentine, Birmingham. Cliff Davis, Birmingham. Steve Elwell, Great Sutton. Stuart Ordish, Birmingham. Paula Jacks, Nottingham. Martin Dennett, Aberdare. George Townsend, Eastbourne. Mike Davies, Llandeilo. S. Jakeways, Wolverton. Peter O'Sullivan, Lymington. D. Howells, Witham. R. Carter, Boston. David Gollop, Garston. Wayne Nelson, Bristol.

The lucky, lucky people!

MORE ACE CARD WINNERS

The list of ACE card winners grows ever longer – how do we manage to give away all these prizes each month? Can you afford to miss an Issue? If we don't offload some of this juicy hardware soon, we'll have to move to bigger offices!

John Piggot, York (46092 in Issue 9) wins £25 of software. **Mr T. Broadhurst, Warrington** (43916 in Issue 9) wins £50 of software. **Mr J. Waller, Luton** (20896 in Issue 9) wins a year's subscription to ACE. **Ian Timson, Lytham St Annes** (38569 in Issue 9) wins £25 of software. **Shane Lalies, Newport** (23157 in Issue 10) wins £25 of software. **Mr S. Davey, Sudbury** (00756 in Issue 10) wins £50 of software. **Graham Savage** (35858 in Issue 10) wins £25 of software. **J. Banks, Aberdeen** (23279 in Issue 10) wins £25 of software

Keep checking your card – it could be a winner!

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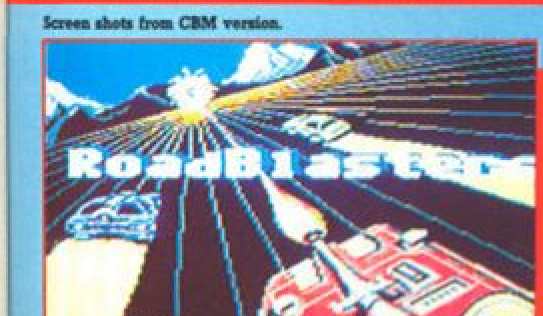
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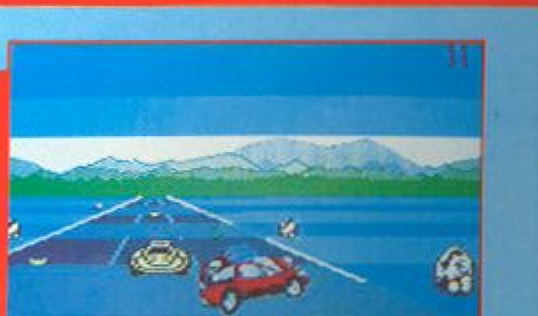

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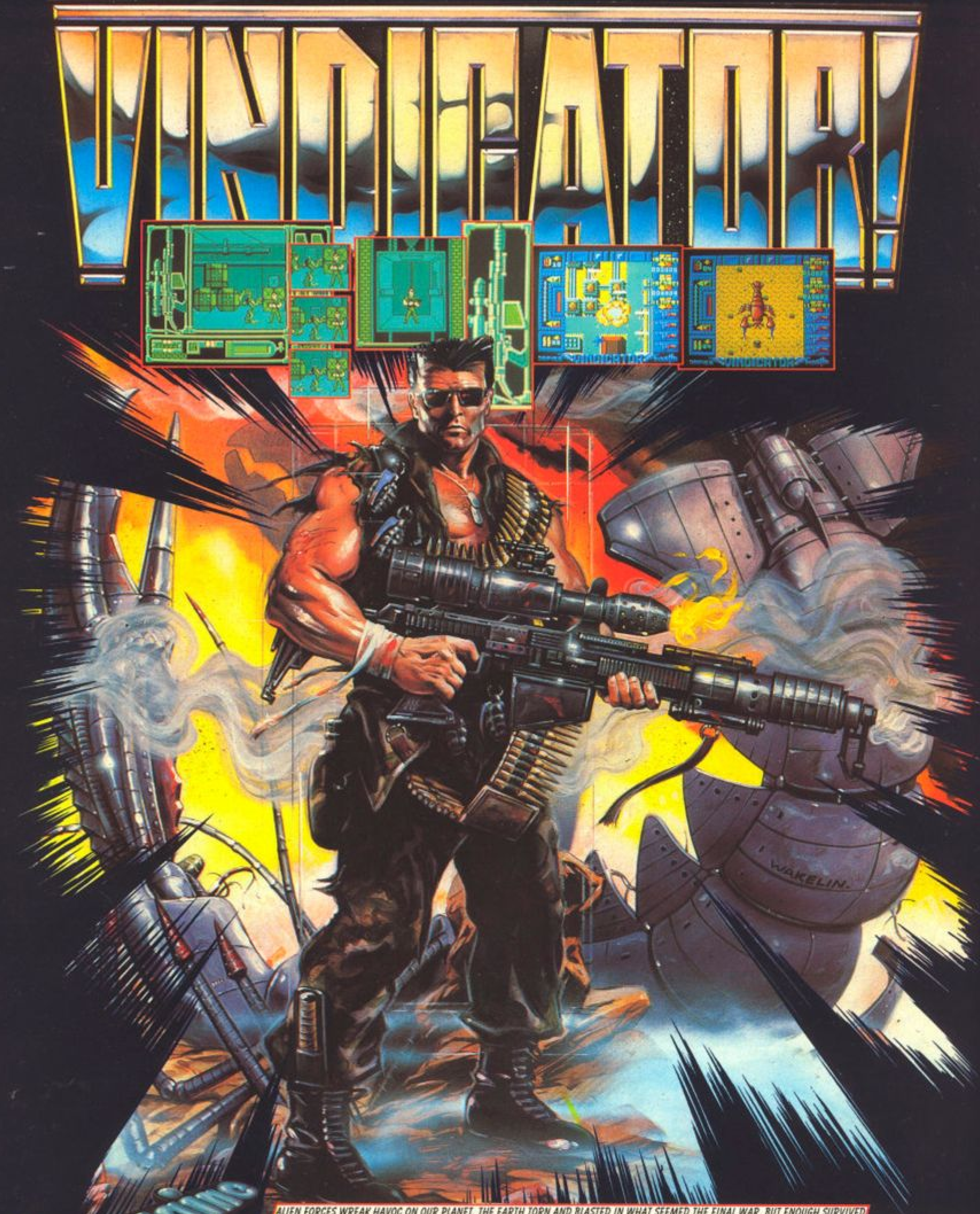

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